November 1990 86-018-1810

NAS ALAMEDA
REMEDIAL INVESTIGATION/FEASIBILITY STUDY
PHASE 2A BORING LOGS AND
MONITORING WELL CONSTRUCTION DETAILS

ENCLOSURE 16

Prepared for Western Division Naval Facilities Engineering Command

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FIGURE 1 – PHASE 2A MONITORING WELL AND SOIL BORING LOCATIONS

PHASE 2A BORING LOGS AND MONITORING WELL CONSTRUCTION DETAILS REMEDIAL INVESTIGATION/FEASIBILITY STUDY

THE ABOVE IDENTIFIED FIGURE IS NOT AVAILABLE.

EXTENSIVE RESEARCH WAS PERFORMED BY SOUTHWEST DIVISION TO LOCATE THIS FIGURE. THIS PAGE HAS BEEN INSERTED AS A PLACEHOLDER AND WILL BE REPLACED SHOULD THE MISSING ITEM BE LOCATED.

QUESTIONS MAY BE DIRECTED TO:

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APPENDIX A

BUILDING 360
BORING LOGS AND MONITORING WELL
CONSTRUCTION DETAILS

Boring Log Legend

SAMPLE

No: (Number) Soil samples are numbered consecutively from the ground surface. Core samples are numbered consecutively from the first core run.

Type: SS= Split-Spoon (2" O.D.) ST= Shelby Tube A= Auger Cuttings
PT= Piston Tube CR= Core Run

Interval: The depth of sampling interval in feet below ground surface.

BLOW COUNT

The number of blows required to drive a 2-inch O.D. split-spoon sampler with a 140 pound hammer falling 30-inches. When appropriate, the sampler is driven 18 inches and blow counts are reported for each 6-inch interval. The sum of blow counts for the last two 6-inch intervals is designated as the standard penetration resistance (N) expressed as blows per foot.

RECOVERY IN INCHES

The length of sample recovered by the sampling device.

U.S.C.S SOIL TYPE

The Unified Soil Classification System symbol for recovered soil samples determined by visual examination or laboratory tests. Refer to ASTM D2487-69 for a detailed description of procedure and symbols. Underlined symbols denote classifications based on laboratory tests (ie: ML), all others are based on visual classification only.

PERCENT MOISTURE

Natural moisture content of sample expressed as percent of dry weight.

qu,TSF

Unconfined compressive strength in tons per square foot obtained by Hand Penetrometer. Laboratory compression test values are indicated by underlining.

CONTACT DEPTH

The contact depth between soil layers is interpreted from significant changes in recovered samples and observations during drilling. Actual changes between soil layers often occur gradationally and the contact depths shown on the boring logs should be considered as approximate.

SOIL DESCRIPTION AND REMARKS

Soil descriptions include consistency or density, color, predominant soil types, and modifying constituents.

COHESIVE SOILS			GRANULAR SOILS	
Consistency	qu (TSF)	Blows/Ft.	Density	Blows Per Foot
Very Soft	less than 0.25	0-1	Very Loose	4 or less
Soft	0.25 to 0.50	2-4	Loose	5 to 10
Medium Stiff	0.50 to 1.00	5-8	Medium Dense	11 to 30
Stiff	1.00 to 2.00	9-15	Dense	31 to 50
Very Stiff	2.00 to 4.00	15-30	Very Dense	over 50
Hard	more than 4.00	Over 30		

PARTICLE SIZE DESCRIPTION

Boulder=	Larger than 12 inches.
Cobble=	3 to 12 inches.
Gravel=	0.187 to 3 inches.
Sand=	0.074 mm to 4.76 mm.
Silt and Clay=	Smaller than 0.074 mm

DEFINITION OF TERMS

Trace=	5 to 12 percent by weight.
Some=	12 to 30 percent by weight.
And=	Approximately equal fractions.
( )=	Drillers observation.

PIEZO.

(Piezometer) Screened interval of the piezometer installation is denoted by cross-hatching.

GENERAL NOTE

The boring logs and related information depict subsurface conditions only at the specific locations and dates indicated. Soil conditions and water levels at other locations may differ from conditions occurring at these boring locations. Also the passage of time may result in a change in the conditions at these boring locations.

SOIL TEST BORING REFUSAL

Defined as any material causing a blow count greater than 100 blows/6 inches. Such material may include bedrock, "floating" rock slabs, boulders, dense gravel seams, or cemented soils. Refusal is usually indicated in fractional notation showing number of blows as the numerator and inches of penetration as the denominator.

Soil Boring Log

PROJECT No. 86-018-1804
BORING No. MW360-1
LOGGED BY RMD

PROJECT NAME NAS Alameda - Phase 2A Site Investigations
BORING LOCATION North side of Building 360 in front of rollup doors SURFACE ELEVATION 113.19 feet
DRILLER Spectrum Exploration - Garry Buss DATE: START 6/28/90 FINISH 6/28/90

DEPTH	SAMPLE No.	SAMPLE TYPE	INTERVAL FROM	INTERVAL TO	BLOW COUNT 0" 6"	BLOW COUNT 6" 12"	BLOW COUNT 12" 18"	REC (in)	USCS SOIL TYPE	WC (%)	qu (TSF)	LAYER DEPTH	SOIL DESCRIPTION AND REMARKS	PIEZO
													Concrete. (Fill)	
	1	CS	0.5	2.0	8	10	12	12	SM			0.5	Medium dense, mottled reddish yellowish	
	2	CS	2.0	3.5	4	10	12	14	SP			2.7	brown, silty medium sand, moist. (Fill)	
													Medium dense, gray and tan, fine to	
5	3	CS	3.5	5.0	3	4	2	15	SP				medium sand, moist.	
	4	CS	5.0	6.5	1	2	5	13	SP				becomes loose at 3.5 feet.	X
													becomes saturated at 4.5 feet.	X
	5	CS	6.5	8.0	3	1	2	12	SP				color change to black at 5.5 feet.	X
	6	CS	8.0	9.5	2	3	2	15	SP				increase of clay to trace at 5.5 feet.	X
10													color change to dark brown at 8.0 feet.	X
	7	CS	9.5	11.0	2	2	4	15	SC			10.3	Loose, orange brown, clayey fine sand,	X
	8	CS	11.0	12.5	6	12	18	15	SC				saturated . (Merritt Sand)	X
													becomes medium dense at 11.5 feet.	X
	9	CS	12.5	14.0	4	16	16	14	SC				decrease in clay to trace at 12.3 feet.	X
15	10	CS	14.0	15.5	5	9	11	16	SC				becomes fine to medium grained at	X
												15.5	12.3 feet.	
													Bottom of Boring at 15.5 feet.	
													Notes:	
20														
													1. Boring was advanced using 8-inch-diameter hollow stem augers.	
													2. Groundwater was encountered at 4.5 feet during drilling.	
25														
													3. Sampler type:	
													California Sampler (CS)	
													O.D.: 2.5 inches	
30													I.D.: 2.0 inches	
													4. Boring was converted to a monitoring well upon completion of drilling.	
													5. OVA readings:	
35													a) 8-10 ppm at 4.0 feet.	
													b) 20-30 ppm at 5.5 feet.	
													c) 0 ppm at 9.0 feet.	
40														

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Soil Boring Log

PROJECT No. 86-018-1804
BORING No. MW360-2
LOGGED BY RMD

PROJECT NAME NAS Alameda - Phase 2A Site Investigations
BORING LOCATION West side of Building 360 SURFACE ELEVATION 114.27 feet
DRILLER Spectrum Exploration - Garry Buss DATE: START 6/28/90 FINISH 6/28/90

DEPTH	SAMPLE No.	SAMPLE TYPE	INTERVAL FROM	INTERVAL TO	BLOW COUNT 0" 6"	BLOW COUNT 6" 12"	BLOW COUNT 12" 18"	REC (in)	USCS SOIL TYPE	WC (%)	qu (TSF)	LAYER DEPTH	SOIL DESCRIPTION AND REMARKS	PIEZO
													Concrete. (Fill)	
	1	CS	0.5	2.0	5	8	12	15	SM			0.5	Loose, dark brown, silty fine sand, moist.	
	2	CS	2.0	3.5	4	5	5	15	SM				(Fill) color change to orangish brown	
													and trace of clay at 2.8 feet.	
5	3	CS	3.5	5.0	2	4	3	6	SW			3.8	Loose, orangish brown, gravelly sand,	
	4	CS	5.0	6.5	1	3	5	10	SM			5.0	moist, with trace of silt, moist. (Fill)	X
													Loose, gray, silty fine sand, saturated,	X
	5	CS	6.5	8.0	3	2	2	15	SM				with trace of gravel and clay.	X
	6	CS	8.0	9.5	3	4	5	16	SC			9.0	color change to dark brown at 5.5 feet.	X
10													gravel decreases to none at 6.5 feet.	X
	7	CS	9.5	11.0	5	10	11	16	SC				Loose, reddish brown and gray, silty fine	X
	8	CS	11.0	12.5	10	12	14	16	SC				sand, saturated, with trace of clay.	X
													increase in clay to some at 9.5 feet.	X
	9	CS	12.5	14.0	8	9	10	16	SC				density changes to Medium at 9.5 feet.	X
15	10	CS	14.0	15.5	6	13	15	16	SC				decrease in clay at 12.5 feet.	X
												15.5	very wet at 12.5 feet.	
													Bottom of Boring at 15.5 feet.	
													Notes:	
20														
													1. Boring was advanced using 8-inch-diameter hollow stem augers.	
													2. Groundwater was encountered at 5.0 feet during drilling.	
25														
													3. Sampler type:	
													California Sampler (CS)	
													O.D.: 2.5 inches	
30													I.D.: 2.0 inches	
													4. Boring was converted to a monitoring well upon completion of drilling.	
													5. OVA readings:	
35													a) 2-5 ppm at 1.0 feet.	
													b) 2-4 ppm at 5.0 feet.	
40														

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Soil Boring Log

PROJECT No. 86-018-1804
BORING No. MW360-3
LOGGED BY RMD

PROJECT NAME NAS Alameda - Phase 2A Site Investigations
BORING LOCATION South side of Building 360 SURFACE ELEVATION 114.28 feet
DRILLER Spectrum Exploration - Garry Buss DATE: START 6/27/90 FINISH 6/27/90

DEPTH	SAMPLE No.	SAMPLE TYPE	INTERVAL FROM	INTERVAL TO	BLOW COUNT 0" to 6"	BLOW COUNT 6" to 12"	BLOW COUNT 12" to 18"	REC (in)	USCS SOIL TYPE	WC (%)	qu (TSF)	LAYER DEPTH	SOIL DESCRIPTION AND REMARKS	PIEZO
													Concrete. (Fill)	
	1	CS	0.5	2.0	7	12	14	15	SM			0.5	Medium dense, dark brown, silty fine	
	2	CS	2.0	3.5	7	5	3	15	SP			1.2	sand, moist. (Fill)	
												3.0	Medium dense, light brown, fine sand,	
5	3	CS	3.5	5.0	1	2	2	15	SM				moist. (Fill)	
	4	CS	5.0	6.5	3	1	1	16	SM			5.0	Loose, grayish tan, silty fine sand,	X
													moist, with trace of clay. (Fill)	X
	5	CS	6.5	8.0	3	4	5	16	SM				some asphalt from 3.8 feet to 5.0 feet.	X
	6	CS	8.0	9.5	5	15	17	18	SM				Loose, light brown, silty fine sand,	X
10													saturated.	X
	7	CS	9.5	11.0	10	14	13	16	SM				trace of clay at 8.0 feet.	X
	8	CS	11.0	12.5	7	10	12	17	SM			11.5	Medium dense, orange brown mottled	X
													with gray, silty fine sand, saturated,	X
	9	CS	12.5	14.0	6	13	20	15	SM				trace of clay. (Merritt Sand)	X
15	10	CS	14.0	15.5	5	6	7	17	SM					X
												15.5	Bottom of Boring at 15.5 feet.	
													Notes:	
20													1. Boring was advanced using 8-inch-diameter hollow stem augers.	
													2. Groundwater was encountered at 4.5 feet during drilling.	
25													3. Sampler type:	
													California Sampler (CS)	
													O.D.: 2.5 inches	
													I.D.: 2.0 inches	
30														
													4. Boring was converted to a monitoring well upon completion of drilling.	
													5. OVA readings:	
35													a) 5 ppm at 6.0 feet.	
													6. Standing water at 14.0 feet upon completion of drilling.	
40														

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Soil Boring Log

PROJECT No. 86-018-1804
BORING No. MW360-4
LOGGED BY BB

PROJECT NAME NAS Alameda - Phase 2A Site Investigations
BORING LOCATION East side of Building 360 by picnic area SURFACE ELEVATION 113.90 feet
DRILLER Spectrum Exploration - Garry Buss DATE: START 6/27/90 FINISH 6/27/90

DEPTH	SAMPLE No.	SAMPLE TYPE	SAMPLE INTERVAL FROM	SAMPLE INTERVAL TO	BLOW COUNT 0" to 6"	BLOW COUNT 6" to 12"	BLOW COUNT 12" to 18"	REC (in)	USCS SOIL TYPE	WC (%)	qu (TSF)	LAYER DEPTH	SOIL DESCRIPTION AND REMARKS	PIEZO
													Concrete. (Fill)	
	1	CS	0.5	2.0	13	14	21	15	SM			0.5	Medium dense, dark brown, silty fine sand. (Fill)	
	2	CS	2.0	3.5	8	11	8	15	SM				becomes loose and saturated at 4.5 feet, color change to black, with some asphalt at 5.5 feet..	
5	3	CS	3.5	5.0	3	6	5	14	SM					
	4	CS	5.0	6.5	1	1	4	13	SM					X
														X
	5	CS	6.5	8.0	2	3	3	17	SM			6.5	Loose, dark brown, silty fine sand, saturated.	X
	6	CS	8.0	9.5	3	3	2	16	SM			8.5	Loose, reddish brown, silty fine sand, saturated, with trace of clay. (Merritt Sand)	X
10														X
	7	CS	9.5	11.0	4	7	11	16	SM					X
	8	CS	11.0	12.5	7	11	12	16	SM					X
														X
	9	CS	12.5	14.0	5	12	12	14	SM				color change to dark brown at 13.5 feet.	X
15	10	CS	14.0	15.5	8	10	7	14	SM					X
												15.5	Bottom of Boring at 15.5 feet	
													Notes:	
20													1. Boring was advanced using 8-inch-diameter hollow stem augers.	
													2. Groundwater was encountered at 4.5 feet during drilling.	
25													3. Sampler type: California Sampler (CS) O.D.: 2.5 inches I.D: 2.0 inches	
													4. Boring was converted to a monitoring well upon completion of drilling.	
30													5. OVA readings: No OVA readings observed during drilling.	
35														
40														

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Soil Boring Log

PROJECT No. 86-018-1804
BORING No. B360-5
LOGGED BY GMM

PROJECT NAME NAS Alameda - Phase 2A Site Investigations
BORING LOCATION Northwest side of Building 360 SURFACE ELEVATION 114.7 feet
DRILLER Spectrum Exploration - Garry Buss DATE: START 6/26/90 FINISH 6/26/90

DEPTH	SAMPLE No.	SAMPLE TYPE	SAMPLE INTERVAL FROM	SAMPLE INTERVAL TO	BLOW COUNT 0" to 6"	BLOW COUNT 6" to 12"	BLOW COUNT 12" to 18"	REC (in)	USCS SOIL TYPE	WC (%)	qu (TSF)	LAYER DEPTH	SOIL DESCRIPTION AND REMARKS	PIEZO
													Concrete. (Fill)	
	1	CS	0.5	2.0	14	35	30	15	SM			0.7	Dense, dark brown, fine to medium sand, moist, with trace of silt. (Fill)	
	2	CS	2.0	3.5	15	25	22	14	SM					
5	3	CS	3.5	5.0	9	7	12	14	SM				becomes dry and color changes to light brown at 3.0 feet.	
	4	CS	5.0	6.5	9	11	9	17	SM				becomes medium dense at 3.5 feet.	
	5	CS	6.5	8.0	2	1	2	18	SM-CL			7.2	becomes saturated at 5.5 feet.	
	6	CS	8.0	9.5	4	3	3	16	SM			8.0	becomes loose at 6.5 feet.	
10													Very soft, dark gray, silty clay, saturated, with some fine sand. (Bay Mud)	
	7	CS	9.5	11.0	3	4	8	17	SM-SC			10.0	Loose reddish brown and gray, silty fine sand, saturated, with trace of clay. (Merritt Sand)	
	8	CS	11.0	12.5	5	12	17	17	SC-SM					
	9	CS	12.5	14.0	8	14	18	16	SM					
15	10	CS	14.0	15.5	7	11	8	16	SM				Medium dense, orange and brown, clayey fine sand, saturated, with trace of silt. (Merritt Sand)	
	11	CS	15.5	17.0	1	2	10	16	SM			17.0	decrease in clay to some at 11.5 feet. decrease in clay to trace at 13.0 feet.	
20													Bottom of Boring at 17.0 feet.	
													Notes:	
													1. Boring was advanced using 8-inch-diameter hollow stem augers.	
25													2. Groundwater was encountered at 5.5 feet during drilling.	
													3. Sampler type: California Sampler (CS) O.D.: 2.5 inches I.D.: 2.0 inches	
30														
													4. Boring was backfilled with cement/ bentonite grout upon completion of drilling.	
35														
													5. OVA readings: No OVA readings observed during drilling.	
40														

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Soil Boring Log

PROJECT No. 86-018-1804
BORING No. B360-6
LOGGED BY GMM

PROJECT NAME NAS Alameda - Phase 2A Site Investigations
BORING LOCATION Southwest side of Building 360 SURFACE ELEVATION 114.2 feet
DRILLER Spectrum Exploration - Garry Buss DATE: START 6/25/90 FINISH 6/25/90

DEPTH	SAMPLE No.	SAMPLE TYPE	SAMPLE INTERVAL FROM	SAMPLE INTERVAL TO	BLOW COUNT 0" 6"	BLOW COUNT 6" 12"	BLOW COUNT 12" 18"	REC (in)	USCS SOIL TYPE	WC (%)	qu (TSF)	LAYER DEPTH	SOIL DESCRIPTION AND REMARKS	PIEZO
													Concrete. (Fill)	
	1	CS	0.5	2.0	10	7	8	18	SM			0.7	Medium dense, brown, silty medium	
	2	CS	2.0	3.5	3	7	6	12	SM				sand, moist. (Fill)	
													becomes loose and color changes	
5	3	CS	3.5	5.0	3	3	2	14	SM				to black at 3.5 feet.	
	4	CS	5.0	6.5	2	1	4	14	SM			5.8	Very loose, black, sandy gravel,	
													angular, saturated. (Fill)	
	5	CS	6.5	8.0	3	3	3	16	GP-SM			6.5	Loose, black, silty medium sand, with	
	6	CS	8.0	9.5	5	9	11	16	SM-SC			8.0	saturated, trace of clay.	
10													color change to brown at 7.3 feet.	
	7	CS	9.5	11.0	3	11	10	15	SC				Medium dense, reddish brown and gray,	
	8	CS	11.0	12.5	3	6	8	16	SC				clayey fine gray sand, saturated, with	
													trace of silt. (Merritt Sand)	
	9	CS	12.5	14.0	12	10	14	16	SC				clay content decreases at 10.0 feet.	
15	10	CS	14.0	15.5	10	12	15	3	SC					
												15.5	Bottom of Boring at 15.5 feet.	
													Notes:	
20													1. Boring was advanced using 8-inch-diameter hollow stem augers.	
													2. Groundwater was encountered at 5.0 feet during drilling.	
25													3. Sampler type:	
													California Sampler (CS)	
													O.D.: 2.5 inches	
													I.D.: 2.0 inches	
30														
													4. Boring was backfilled with cement/ bentonite grout upon completion on drilling.	
35													5. OVA readings:	
													a) 30 ppm at 4.0 feet.	
													6. Standing water level at 7.3 feet after drilling.	
40														

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Soil Boring Log

PROJECT No. 86-018-1804
BORING No. B360-7
LOGGED BY BB

PROJECT NAME NAS Alameda - Phase 2A Site Investigations
BORING LOCATION West of southwest corner of Building 360 SURFACE ELEVATION 114.0 feet
DRILLER Spectrum Exploration - Garry Buss DATE: START 6/26/90 FINISH 6/26/90

DEPTH	SAMPLE No.	SAMPLE TYPE	INTERVAL FROM	INTERVAL TO	BLOW COUNT 0" to 6"	BLOW COUNT 6" to 12"	BLOW COUNT 12" to 18"	REC (in)	USCS SOIL TYPE	WC (%)	qu (TSF)	LAYER DEPTH	SOIL DESCRIPTION AND REMARKS	PIEZO
													Concrete. (Fill)	
	1	CS	0.5	2.0	12	22	12	14	SM			0.5	Medium dense to dense, dark brown, silty sand, moist. (Fill)	
	2	CS	2.0	3.5	5	5	5	16	SM				becomes very loose at 3.5 feet.	
5	3	CS	3.5	5.0	2	1	1	10	SM				trace of clay at 3.5 feet.	
	4	CS	5.0	6.5	1	1	2	12	SM				becomes saturated at 4.5 feet.	
	5	CS	6.5	8.0	2	1	2	16	SM					
	6	CS	8.0	9.5	3	5	8	16	SM			8.0	Medium dense, reddish brown and gray, silty fine sand, saturated, with	
10	7	CS	9.5	11.0	12	13	12	17	SM				some clay. (Merritt Sand)	
	8	CS	11.0	12.5	8	17	24	15	SM					
	9	CS	12.5	14.0	8	13	18	16	SM					
15	10	CS	14.0	15.5	5	7	13	16	SM			15.5	Bottom of Boring at 15.5 feet.	
20													Notes:	
													1. Boring was advanced using 8-inch-diameter hollow stem augers.	
													2. Groundwater was encountered at 4.5 feet during drilling.	
25													3. Sampler type: California Sampler (CS) O.D.: 2.5 inches I.D.: 2.0 inches	
30													4. Boring was backfilled with cement/ bentonite grout upon completion of drilling.	
35													5. OVA readings: No OVA readings observed during drilling.	
40														

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Soil Boring Log

PROJECT No. 86-018-1804
BORING No. B360-8
LOGGED BY GMM

PROJECT NAME NAS Alameda - Phase 2A Site Investigations
BORING LOCATION Southeast corner of Building 360 SURFACE ELEVATION 113.9 feet
DRILLER Spectrum Exploration - Garry Buss DATE: START 6/26/90 FINISH 6/26/90

DEPTH	SAMPLE No.	SAMPLE TYPE	SAMPLE INTERVAL FROM	SAMPLE INTERVAL TO	BLOW COUNT 0" to 6"	BLOW COUNT 6" to 12"	BLOW COUNT 12" to 18"	REC (in)	USCS SOIL TYPE	WC (%)	qu (TSF)	LAYER DEPTH	SOIL DESCRIPTION AND REMARKS	PIEZO
													Concrete. (Fill)	
	1	CS	0.5	2.0	17	16	16	16	SM			0.5	Medium dense, brown and black, silty fine sand, moist. (Fill)	
	2	CS	2.0	3.5	4	4	5	15	SM				becomes loose at 2.0 feet.	
5	3	CS	3.5	5.0	4	4	4	16	SM				color change to black at 2.7 feet,	
	4	CS	5.0	6.5	2	1	1	12	SM			6.0	some asphalt.	
													Medium dense, brown, silty fine sand,	
	5	CS	6.5	8.0	2	4	10	17	CL			7.0	saturated.	
	6	CS	8.0	9.5	6	13	19	17	CL-SM			9.0	Stiff, orange brown mottled gray, sandy	
10													clay, saturated. (Merritt Sand)	
	7	CS	9.5	11.0	8	13	17	15	SM				Medium dense, orange brown, silty	
	8	CS	11.0	12.5	8	12	14	17	SM				fine sand, saturated , trace of clay,	
													decrease of clay to trace at 9.5 feet.	
	9	CS	12.5	14.0	8	11	10	16	SM					
15	10	CS	14.0	15.5	5	5	11	18	SM					
												15.5	Bottom of Boring at 15.5 feet.	
													Notes:	
20													1. Boring was advanced using 8-inch-diameter hollow stem augers.	
													2. Groundwater was encountered at 4.5 feet during drilling.	
25													3. Sampler type:	
													California Sampler (CS)	
													O.D.: 2.5 inches	
													I.D.: 2.0 inches	
30														
													4. Boring was backfilled with cement/ bentonite grount upon completion of drilling.	
35													5. OVA readings:	
													a) 100 ppm at 4.5 feet.	
40														

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Soil Boring Log

PROJECT No. 86-018-1804
BORING No. B360-9
LOGGED BY BB

PROJECT NAME NAS Alameda - Phase 2A Site Investigations
BORING LOCATION East side of Building 360 SURFACE ELEVATION 113.8 feet
DRILLER Spectrum Exploration - Garry Buss DATE: START 6/26/90 FINISH 6/26/90

DEPTH	SAMPLE No.	SAMPLE TYPE	INTERVAL FROM	INTERVAL TO	BLOW COUNT 0" to 6"	BLOW COUNT 6" to 12"	BLOW COUNT 12" to 18"	REC (in)	USCS SOIL TYPE	WC (%)	qu (TSF)	LAYER DEPTH	SOIL DESCRIPTION AND REMARKS	PIEZO
													Concrete. (Fill)	
	1	CS	0.5	2.0	15	10	8	12	SM			0.5	Medium dense, dark brown, silty fine sand, moist. (Fill)	
	2	CS	2.0	3.5	4	7	16	14	SM				color change to black at 3.0 feet.	
5	3	CS	3.5	5.0	4	5	6	14	SM				slight hydrocarbon odor at 3.0 feet.	
	4	CS	5.0	6.5	2	1	2	17	SM				becomes loose at 5.0 feet.	
													becomes saturated at 6.0 feet.	
	5	CS	6.5	8.0	2	2	3	14	SM				color change to dark brown	
	6	CS	8.0	9.5	3	6	14	17	SM			8.5	at 6.5 feet.	
10													Medium dense, reddish brown and gray,	
	7	CS	9.5	11.0	7	12	17	17	SC-SM				silty fine sand, saturated, with	
	8	CS	11.0	12.5	10	10	12	16	SM				trace of clay. (Merritt Sand)	
													color change to light brown at	
	9	CS	12.5	14.0	7	9	12	13	SC				12.0 feet.	
15	10	CS	14.0	15.5	7	12	13	16	SC				increase in clay content at 12.5 feet.	
	11	CS	15.5	17.0	3	7	15	17	SC					
												17.0	Bottom of Boring at 17.0 feet.	
20													Notes:	
													1. Boring was advanced using 8-inch-diameter hollow stem augers.	
25													2. Groundwater was encountered at 6.0 feet during drilling.	
													3. Sampler type: California Sampler (CS) O.D.: 2.5 inches I.D.: 2.0 inches	
30														
													4. Boring was backfilled with cement/ bentonite grout upon completion of drilling.	
35														
													5. OVA readings: No OVA readings observed during drilling.	
40														

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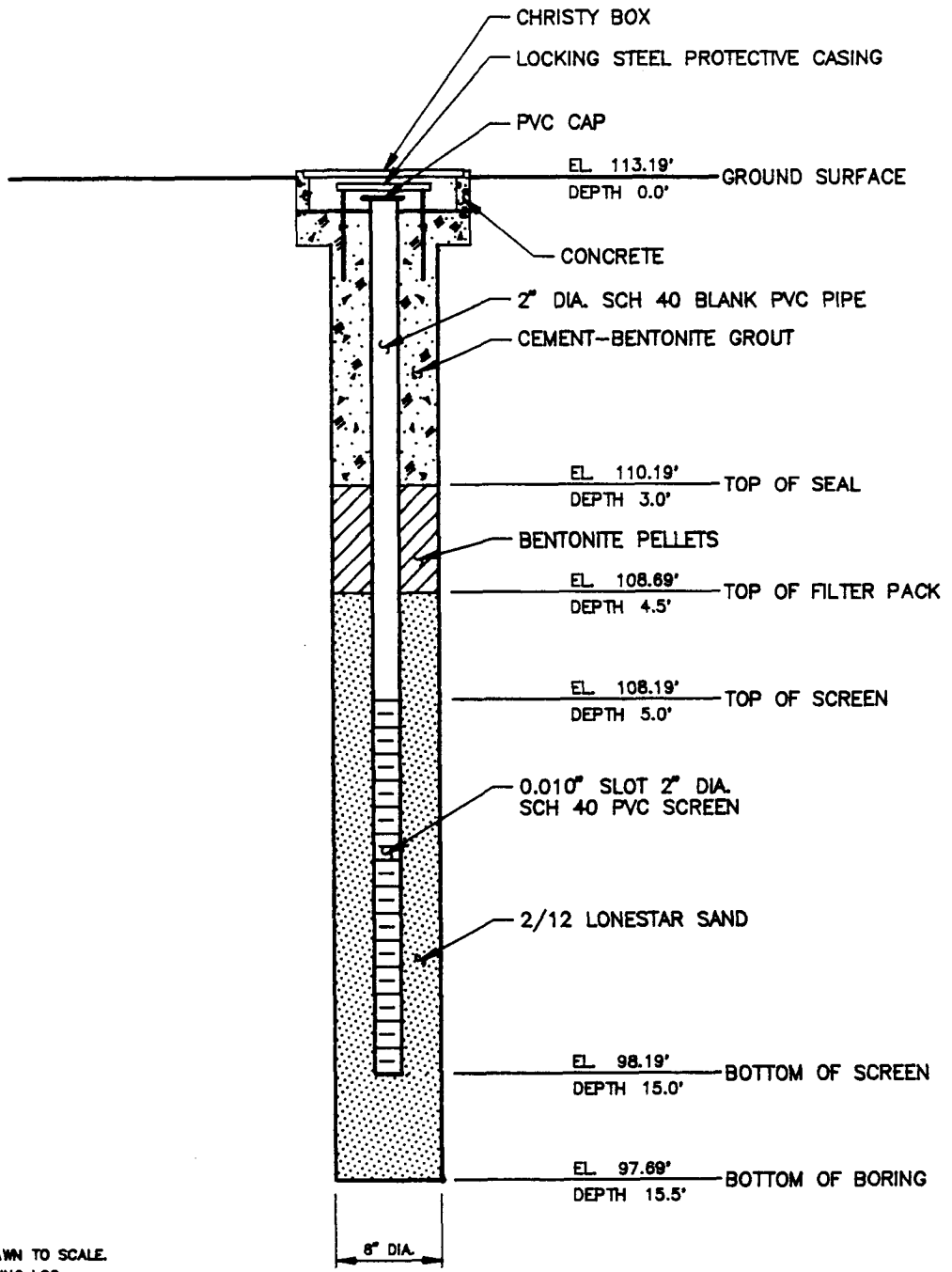
Monitoring Well Detail

PROJECT No. 86-018-1804

WELL No. MW360-1

PROJECT NAME NAS ALAMEDA-PHASE 2A SITE INVESTIGATION

WELL LOCATION BUILDING 360, NORTHWEST CORNER DATE 6-28-90 BY RMD



NOTES:

1. NOT DRAWN TO SCALE.
2. SEE BORING LOG FOR DETAILED SOIL DESCRIPTION.

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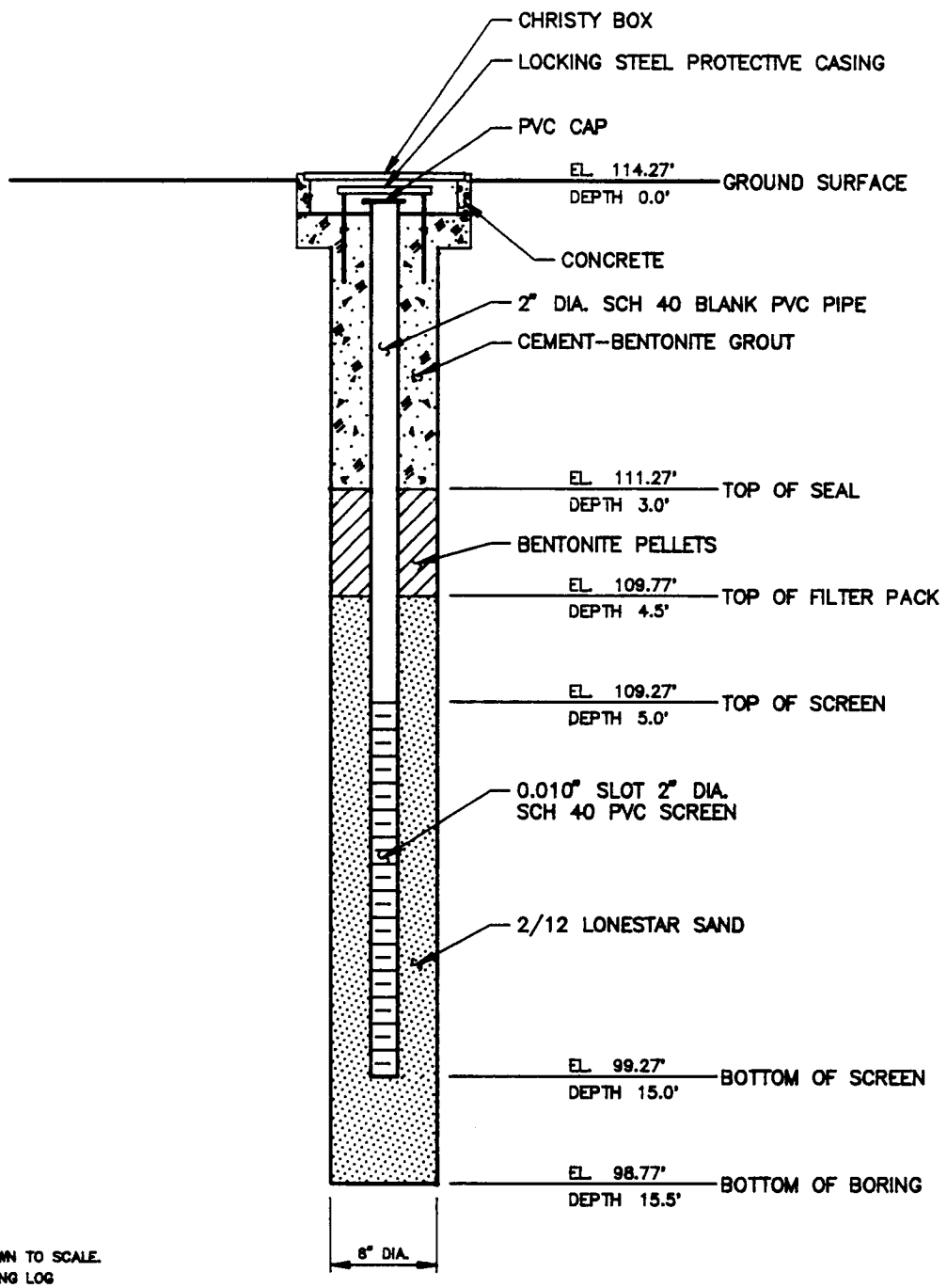
Monitoring Well Detail

PROJECT No. 86-018-1804

WELL No. MW360-2

PROJECT NAME NAS ALAMEDA--PHASE 2A SITE INVESTIGATION

WELL LOCATION BUILDING 360, WEST SIDE DATE 6-28-90 BY RMD



NOTES:

1. NOT DRAWN TO SCALE.
2. SEE BORING LOG FOR DETAILED SOIL DESCRIPTION.

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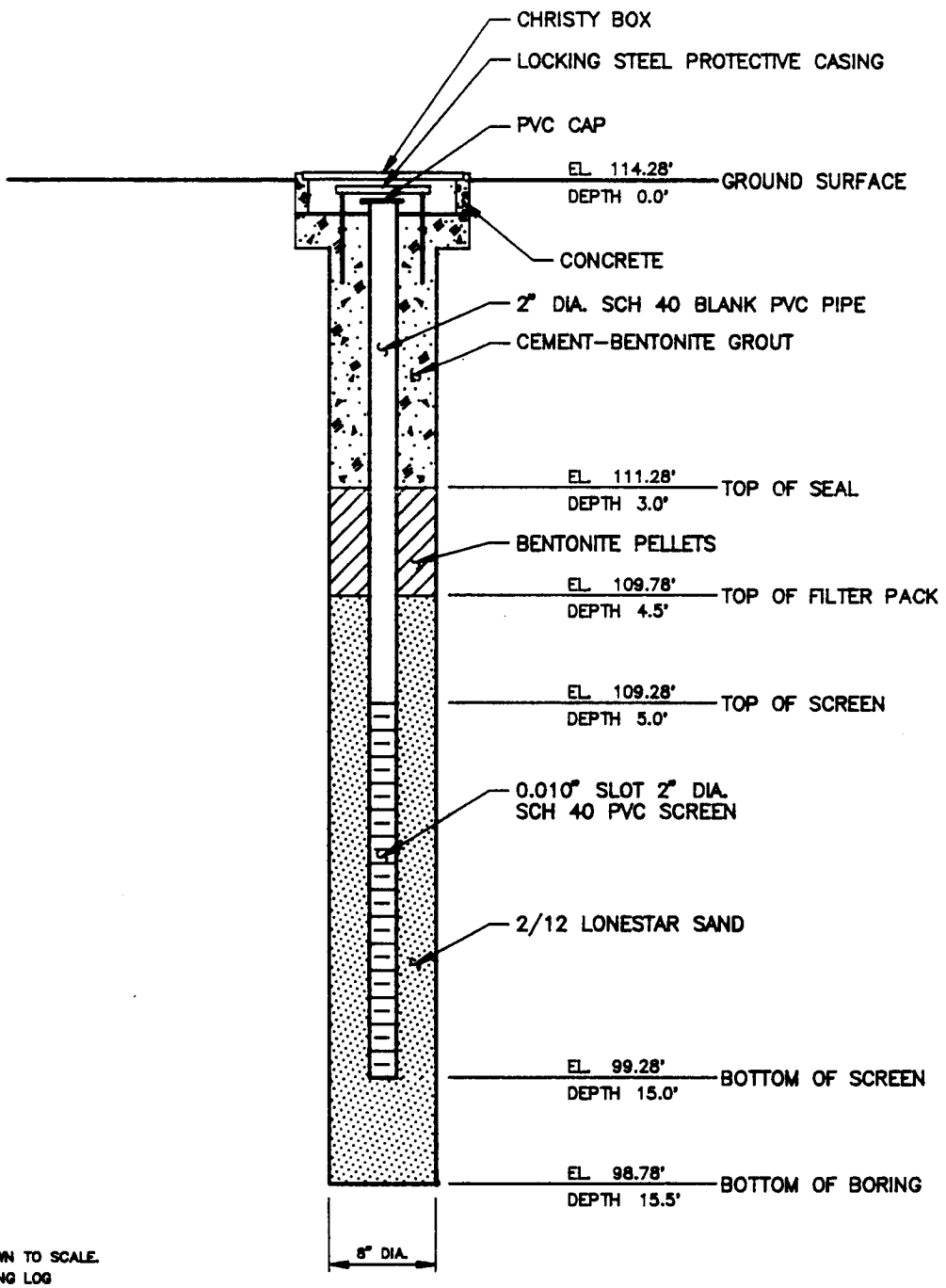
Monitoring Well Detail

PROJECT No. 86-018-1804

WELL No. MW360-3

PROJECT NAME NAS ALAMEDA-PHASE 2A SITE INVESTIGATION

WELL LOCATION BUILDING 360, SOUTH SIDE DATE 6-27-90 BY GM



NOTES:

1. NOT DRAWN TO SCALE.
2. SEE BORING LOG FOR DETAILED SOIL DESCRIPTION.

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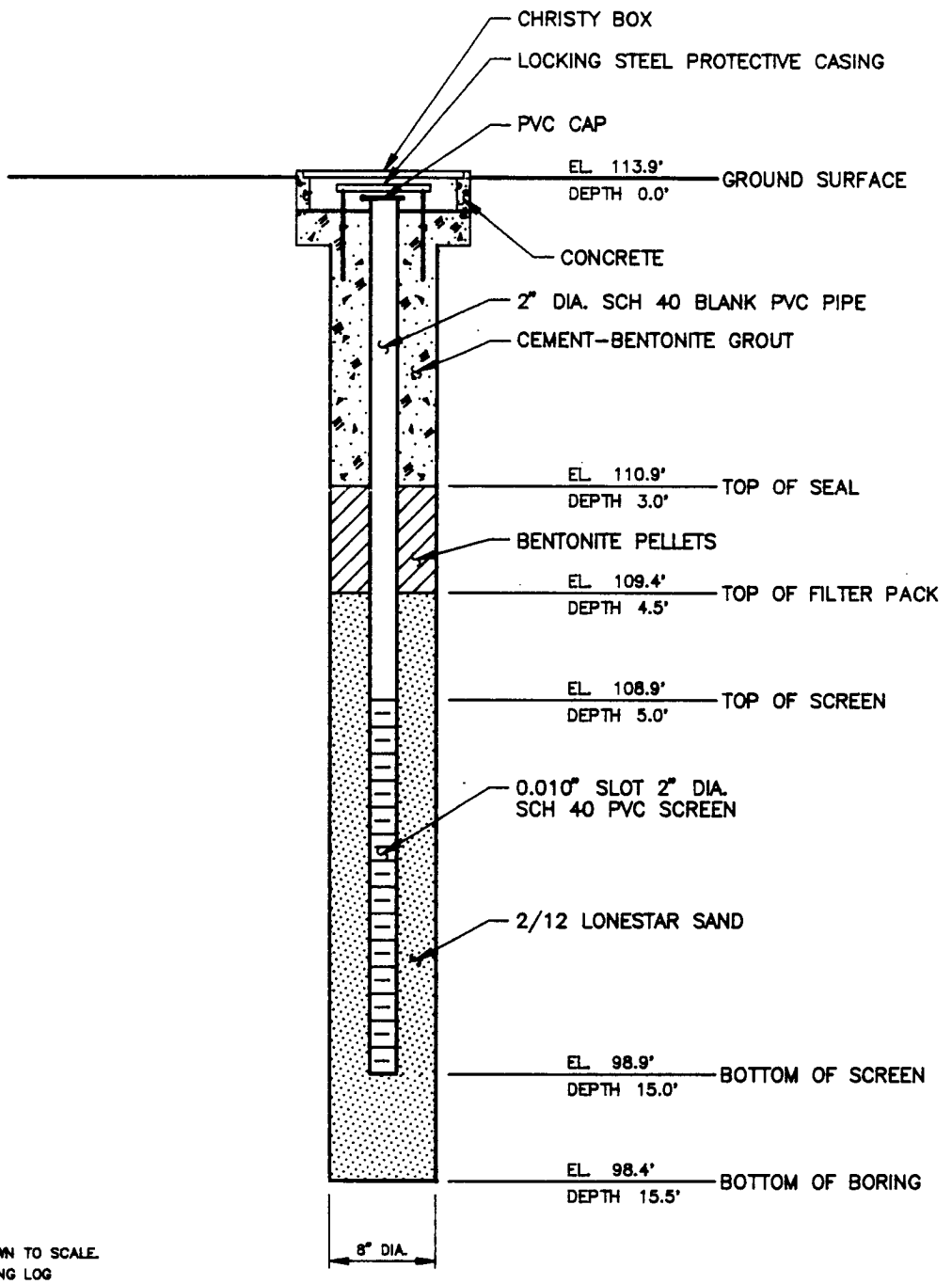
Monitoring Well Detail

PROJECT No. 86-018-1804

WELL No. MW360-4

PROJECT NAME NAS ALAMEDA-PHASE 2A SITE INVESTIGATION

WELL LOCATION BUILDING 360, EAST SIDE DATE 6-27-90 BY GM



NOTES:

1. NOT DRAWN TO SCALE.
2. SEE BORING LOG FOR DETAILED SOIL DESCRIPTION.

APPENDIX B

BUILDING 547
BORING LOGS AND MONITORING WELL
CONSTRUCTION DETAILS

Soil Boring Log

PROJECT No. 86-018-1804
BORING No. MW547-1
LOGGED BY RMD

PROJECT NAME NAS Alameda - Phase 2A Site Investigations
BORING LOCATION NW corner of fenced area of Building 547 at gate SURFACE ELEVATION 114.58 feet
DRILLER Spectrum Exploration - Garry Buss DATE: START 6/29/90 FINISH 6/29/90

DEPTH	SAMPLE No.	SAMPLE TYPE	INTERVAL FROM	INTERVAL TO	BLOW COUNT 0" 6"	BLOW COUNT 6" 12"	BLOW COUNT 12" 18"	REC (in)	USCS SOIL TYPE	WC (%)	qu (TSF)	LAYER DEPTH	SOIL DESCRIPTION AND REMARKS	PIEZO
	1	CS	0.0	1.5	12	14	11	14	SP			0.3	Asphalt. (Fill)	
													Medium dense, light brown, fine sand,	
	2	CS	1.5	3.0	6	7	7	15	SP				moist, some asphalt debris. (Fill)	
	3	CS	3.0	4.5	2	2	2	13	SP-SM			4.0	becomes loose at 1.5 feet.	
5													Loose, dark brown, silty fine sand,	
	4	CS	4.5	6.0	1	2	1	13	SM				saturated.	X
	5	CS	6.0	7.5	2	1	1	15	SM			6.0	Medium dense, brown, silty fine sand,	X
												7.3	saturated. (Merritt Sand)	X
	6	CS	7.5	9.0	3	6	12	18	SM				Loose, orange and brown mottled with	X
10	7	CS	9.0	10.5	14	15	14	17	SM				gray, silty, fine sand, saturated, with	X
													trace of clay. (Merritt Sand)	X
	8	CS	10.5	12.0	10	20	16	18	SM			10.5	becomes medium dense at 8.5 feet.	X
	9	CS	12.0	13.5	7	13	12	18	SM				layer of clayey sand at top of unit.	X
													Medium dense to dense, brown, silty	X
15	10	CS	13.5	15.0	7	13	15	18	SM				fine sand, saturated. (Merritt Sand)	X
												15.0	Bottom of Boring at 15.0 feet.	
													Notes:	
20													1. Boring was advanced using 8-inch-diameter hollow stem augers.	
													2. Groundwater was encountered at 4.0 feet during drilling.	
25													3. Sampler type: California Sampler (CS) O.D.: 2.5 inches I.D.: 2.0 inches	
30													4. Boring was converted to a monitoring well upon completion of drilling.	
35													5. OVA readings: No OVA readings observed during drilling.	
40														

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Soil Boring Log

PROJECT No. 86-018-1804
BORING No. MW547-2
LOGGED BY RMD

PROJECT NAME NAS Alameda - Phase 2A Site Investigations
BORING LOCATION Northeast corner of fenced area of Building 547 SURFACE ELEVATION 113.87 feet
DRILLER Spectrum Exploration - Garry Buss DATE: START 6/29/90 FINISH 6/29/90

DEPTH	No.	TYPE	INTERVAL FROM	INTERVAL TO	COUNT 0" to 6"	COUNT 6" to 12"	COUNT 12" to 18"	(in)	SOIL TYPE	(%)	(TSF)	LAYER DEPTH	AND REMARKS	PIEZO
	1	CS	0.0	1.5	4	9	14	13	SM				Grass and topsoil.	
												0.5	Medium dense, dark brown, silty	
	2	CS	1.5	3.0	6	8	12	15	SM				fine sand, dry. (Fill)	
	3	CS	3.0	4.5	10	10	7	14	SM				becomes moist with odor at 2.5 feet.	
5													color change to black at 2.8 feet.	
	4	CS	4.5	6.0	2	3	2	15	SM			5.0	trace of clay at 3.5 feet.	X
	5	CS	6.0	7.5	3	5	10	18	SC			7.0	becomes loose at 4.5 feet.	X
													Medium dense, brown, silty sand,	X
	6	CS	7.5	9.0	5	10	11	16	SC				saturated.	X
10	7	CS	9.0	10.5	9	7	10	16	SC				Medium dense, orange brown mottled	X
													with gray, clayey fine sand, saturated.	X
	8	CS	10.5	12.0	9	9	13	15	SC				clay decreases to some at 9.0 feet.	X
	9	CS	12.0	13.5	9	10	11	16	SC				color change to brown at 9.0 feet..	X
													(Merritt Sand)	X
15	10	CS	13.5	15.0	6	11	13	18	SC				Heaving sands encountered at bottom	X
													of borehole.	
												15.0	Bottom of Boring at 15.0 feet.	
													Notes:	
20														
													1. Boring was advanced using 8-inch-diameter hollow stem augers.	
													2. Groundwater was encountered at 5.3 feet during drilling.	
25														
													3. Sampler type:	
													California Sampler (CS)	
													O.D.: 2.5 inches	
30													I.D.: 2.0 inches	
													4. Boring was converted to a monitoring well upon completion of drilling.	
													5. OVA readings:	
35													a) 10 ppm at 1.0 feet.	
40														

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Soil Boring Log

PROJECT No. 86-018-1804
BORING No. MW547-3
LOGGED BY RMD

PROJECT NAME NAS Alameda - Phase 2A Site Investigations
BORING LOCATION South of service island in fenced area of Bldg. 547 SURFACE ELEVATION 115.61 feet
DRILLER Spectrum Exploration - Garry Buss DATE: START 7/2/90 FINISH 7/2/90

DEPTH	SAMPLE No.	SAMPLE TYPE	INTERVAL FROM	INTERVAL TO	BLOW COUNT 0" to 6"	BLOW COUNT 6" to 12"	BLOW COUNT 12" to 18"	REC (in)	USCS SOIL TYPE	WC (%)	qu (TSF)	LAYER DEPTH	SOIL DESCRIPTION AND REMARKS	PIEZO
	1	CS	0.0	1.5	6	13	13	9	SP				Asphalt. (Fill)	
												1.0	Medium dense, gray, fine sand, dry,	
	2	CS	1.5	3.0	2	12	13	15	SP				with fuel odor. (Fill)	
	3	CS	3.0	4.5	6	5	6	14	SP				sand becomes moist at 3.5 feet.	
5													thin layer of clay at 4.0 feet.	
	4	CS	4.5	6.0	1	1	1	13	CL			5.5	Soft, dark gray, sandy clay, saturated.	X
	5	CS	6.0	7.5	1	1	1	16	CL			7.3	Sand decreases to none at 6.3 feet.	X
													Very loose, black, silty fine sand,	X
	6	CS	7.5	9.0	2	2	2	17	SM				saturated.	X
10	7	CS	9.0	10.5	3	2	2	15	SM			10.3	Loose, orange brown mottled with gray,	X
													silty, fine sand, saturated, with	X
	8	CS	10.5	12.0	2	5	7	18	SM				some clay. (Merritt Sand)	X
	9	CS	12.0	13.5	2	9	10	16	SM				becomes medium dense at 11.5 feet.	X
													clay decreases to trace at 12.8 feet.	X
15	10	CS	13.5	15.0	5	8	13	17	SM					X
												15.0	Bottom of Boring at 15.0 feet.	
													Notes:	
20													1. Boring was advanced using 8-inch-diameter hollow stem augers.	
													2. Groundwater was encountered at 5.0 feet during drilling.	
25													3. Sampler type: California Sampler (CS) O.D.: 2.5 inches I.D.: 2.0 inches	
30													4. Boring was converted to a monitoring well upon completion of drilling.	
35													5. OVA readings: a) 30-40 ppm at 1.5 feet. b) 100-200 ppm in hole 3.0 feet. c) 50 ppm at 6.0 feet.	
40														

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Soil Boring Log

PROJECT No. 86-018-1804
BORING No. MW547-4
LOGGED BY BB

PROJECT NAME NAS Alameda - Phase 2A Site Investigations
BORING LOCATION Southwest corner of fenced area of Building 547 SURFACE ELEVATION 114.68 feet
DRILLER Spectrum Drilling - Garry Buss DATE: START 6/28/90 FINISH 6/28/90

DEPTH	SAMPLE No.	SAMPLE TYPE	SAMPLE INTERVAL FROM	SAMPLE INTERVAL TO	BLOW COUNT 0" to 6"	BLOW COUNT 6" to 12"	BLOW COUNT 12" to 18"	REC (in)	USCS SOIL TYPE	WC (%)	qu (TSF)	LAYER DEPTH	SOIL DESCRIPTION AND REMARKS	PIEZO
	1	CS	0.0	1.5	10	9	10	13	SM				Asphalt. (Fill)	
												0.3	Medium dense, dark brown, silty fine	
	2	CS	1.5	3.0	6	8	6	15	SM				sand, dry. (Fill)	
	3	CS	3.0	4.5	1	2	2	15	SM				becomes very loose at 3.0 feet.	
5													color change to black at 3.8 feet.	
	4	CS	4.5	6.0	1	1	1	18	SM				becomes saturated at 4.5 feet.	X
	5	CS	6.0	7.5	2	2	2	15	SM					X
														X
	6	CS	7.5	9.0	1	1	1	17	SM					X
10	7	CS	9.0	10.5	3	4	4	16	SC			9.0	Loose, reddish brown and gray, clayey	X
													fine sand, saturated, with some silt.	X
	8	CS	10.5	12.0	4	7	6	17	SC				(Merritt Sand)	X
	9	CS	12.0	13.5	2	5	10	15	SC				clay decreases to trace at 12.5 feet.	X
														X
15	10	CS	13.5	15.0	10	12	15	13	SM			13.5	Medium dense, dark brown, silty	X
													fine sand, saturated.	
												15.0	Bottom of Boring at 15.0 feet.	
													Notes:	
20														
													1. Boring was advanced using 8-inch-diameterhollow stem augers.	
													2. Groundwater was encountered at 4.5 feet during drilling.	
25														
													3. Sampler type: California Sampler (CS) O.D.: 2.5 inches I.D.: 2.0 inches	
30														
													4. Boring was converted to a monitoring well upon completion of drilling.	
													5. OVA readings: No OVA readings observed during drilling.	
35														
40														

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Soil Boring Log

PROJECT No. 86-018-1804
BORING No. MW547-5
LOGGED BY BB

PROJECT NAME NAS Alameda - Phase 2A Site Investigations
BORING LOCATION Southeast corner of fenced area of Building 547 SURFACE ELEVATION 114.68 feet
DRILLER Spectrum Exploration - Garry Buss DATE: START 6/29/90 FINISH 6/29/90

DEPTH	SAMPLE No.	SAMPLE TYPE	INTERVAL FROM	INTERVAL TO	BLOW COUNT 0" to 6"	BLOW COUNT 6" to 12"	BLOW COUNT 12" to 18"	REC (in)	USCS SOIL TYPE	WC (%)	qu (TSF)	LAYER DEPTH	SOIL DESCRIPTION AND REMARKS	PIEZO
	1	CS	0.0	1.5	4	14	19	10	SP				Grass and Topsoil.	
												0.2	Medium dense, light brown, fine sand, dry. (Fill)	
	2	CS	1.5	3.0	21	13	17	13	SP					
	3	CS	3.0	4.5	5	6	5	12	SP				trace of red brick fragments from 1.7 feet to 2.0 feet.	
5														
	4	CS	4.5	6.0	2	4	6	15	SM			4.5	Loose, dark brown, silty fine sand, moist,	X
	5	CS	6.0	7.5	2	6	4	16	SC			6.0	with pockets of gray clay.	X
													Loose, black, clayey fine sand, with	X
	6	CS	7.5	9.0	3	4	3	17	SC				some silt, saturated.	X
10	7	CS	9.0	10.5	3	5	3	16	SM			9.0	Loose, dark brown, silty fine sand, with	X
													trace of clay, saturated.	X
	8	CS	10.5	12.0	10	12	15	18	SM			10.5	Medium dense, orange brown mottled	X
	9	CS	12.0	13.5	2	10	20	17	SM				with gray silty fine sand, saturated with	X
													trace of clay. (Merritt Sand)	X
15	10	CS	13.5	15.0	8	11	16	16	SM					X
												15.0	Bottom of Boring at 15.0 feet.	
													Notes:	
20													1. Boring was advanced using 8-inch-diameter hollow stem augers.	
													2. Groundwater was encountered at 6.0 feet during drilling.	
25													3. Sampler type: California Sampler (CS) O.D.: 2.5 inches I.D.: 2.0 inches	
30													4. Boring was converted to a monitoring well upon completion of drilling.	
													5. OVA readings: No OVA readings observed during drilling.	
35														
40														

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Soil Boring Log

PROJECT No. 86-018-1804
BORING No. B547-6
LOGGED BY RMD

PROJECT NAME NAS Alameda - Phase 2A Site Investigations
BORING LOCATION Northeast corner of fenced area of Building 547 SURFACE ELEVATION 114.8 feet
DRILLER Spectrum Exploration - Garry Buss DATE: START 7/2/90 FINISH 7/2/90

DEPTH	SAMPLE No.	SAMPLE TYPE	INTERVAL FROM	INTERVAL TO	BLOW COUNT 0" to 6"	BLOW COUNT 6" to 12"	BLOW COUNT 12" to 18"	REC (in)	USCS SOIL TYPE	WC (%)	qu (TSF)	LAYER DEPTH	SOIL DESCRIPTION AND REMARKS	PIEZO
	1	CS	0.0	1.5	7	16	12	0	SM			0.3	Asphalt. (Fill)	
													Medium dense, brown, silty fine sand,	
	2	CS	1.5	3.0	15	18	16	12	SM				moist. (Fill)	
	3	CS	3.0	4.5	3	2	4	9	SM					
5													color change to black at 4.5 feet.	
	4	CS	4.5	6.0	4	2	3	15	SM				becomes saturated at 5.5 feet.	
	5	CS	6.0	7.5	2	3	2	13	SM				color change to brown at 6.0 feet.	
	6	CS	7.5	9.0	2	8	20	16	SC			7.8	Medium dense, orange brown mottled	
10	7	CS	9.0	10.5	17	25	20	18	SC				with gray, clayey sand, saturated, with	
													trace of silt. (Merritt Sand)	
	8	CS	10.5	12.0	10	15	25	18	SC				decrease in clay to some at 11.5 feet.	
	9	CS	12.0	13.5	10	17	20	15	SC				some interlayered silty sand.	
15	10	CS	13.5	15.0	6	10	12	15	SC			15.0	Bottom of Boring at 15.0 feet.	
													Notes:	
20													1. Boring was advanced using 8-inch-diameter hollow stem augers.	
													2. Groundwater was encountered at 5.5 feet during drilling.	
25													3. Sampler type: California Sampler (CS) O.D.: 2.5 inches I.D.: 2.0 inches	
30													4. Boring was backfilled with cement/ bentonite grout upon completion of drilling.	
35													5. OVA readings: a) 1 ppm at 1.0 feet.	
40														

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Soil Boring Log

PROJECT No. 86-018-1804
BORING No. B547-7
LOGGED BY BB

PROJECT NAME NAS Alameda - Phase 2A Site Investigations
BORING LOCATION North of service island in fenced area of Bldg. 547. SURFACE ELEVATION 116.2 feet
DRILLER Spectrum Exploration - Garry Buss DATE: START 6/28/90 FINISH 6/28/90

DEPTH	SAMPLE No.	SAMPLE TYPE	INTERVAL FROM	INTERVAL TO	BLOW COUNT 0" to 6"	BLOW COUNT 6" to 12"	BLOW COUNT 12" to 18"	REC (in)	USCS SOIL TYPE	WC (%)	qu (TSF)	LAYER DEPTH	SOIL DESCRIPTION AND REMARKS	PIEZO
	1	CS	0.0	1.5	15	19	21	12	SM			0.3	Asphalt. (Fill)	
													Dense, dark brown, silty fine sand, moist.	
	2	CS	1.5	3.0	16	23	24	14	SP			1.8	Dense, light brown, fine sand, moist.	
	3	CS	3.0	4.5	5	7	6	15	SP				strong fuel odor at 1.5 feet.	
5													becomes loose at 4.5 feet.	
	4	CS	4.5	6.0	3	3	3	16	SP				very strong fuel odor at 5.5 feet.	
	5	CS	6.0	7.5	2	4	4	12	SP				becomes saturated at 5.5 feet.	
	6	CS	7.5	9.0	2	1	2	15	SP			8.0	Very loose, dark grayish brown, fine	
10	7	CS	9.0	10.5	7	12	10	17	SP				sand, saturated, with trace of silt,	
													becomes medium dense at 9.0 feet.	
	8	CS	10.5	12.0	6	10	12	15	SM			11.0	Medium dense, brown and gray, silty	
	9	CS	12.0	13.5	8	8	8	17	SM				fine sand,saturated, with some clay	
													seams. some orange-mottled gray	
15	10	CS	13.5	15.0	6	13	13	17	SM				coloring at 11.0 feet. (Merritt Sand)	
												15.0	Bottom of Boring at 15.0 feet.	
													Notes:	
20													1. Boring was advanced using 8-inch-diameter hollow stem augers.	
													2. Groundwater was encountered at 5.5 feet during drilling.	
25													3. Sampler type:	
													California Sampler (CS)	
													O.D.: 2.5 inches	
													I.D.: 2.0 inches	
30														
													4. Boring was backfilled with cement/ bentonite grout upon completion of drilling.	
35													5. OVA readings:	
													a) 30 ppm down hole at 1.5 feet.	
													b) 300-700 ppm at 2.0 feet.	
													c) > 1,000 ppm at 5.5 feet.	
40														

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Soil Boring Log

PROJECT No. 86-018-1804
BORING No. B547-8
LOGGED BY BB

PROJECT NAME NAS Alameda - Phase 2A Site Investigations
BORING LOCATION NE of service island in fenced area of Building 547 SURFACE ELEVATION 116.2 feet
DRILLER Spectrum Exploration - Garry Buss DATE: START 7/3/90 FINISH 7/3/90

DEPTH	SAMPLE No.	TYPE	INTERVAL FROM	INTERVAL TO	BLOW COUNT 0" 6"	6" 12"	12" 18"	REC (in)	USCS SOIL TYPE	WC (%)	qu (TSF)	LAYER DEPTH	SOIL DESCRIPTION AND REMARKS	PIEZO
	1	CS	0.0	1.5	11	17	20	10	SM			0.3	Asphalt. (Fill)	
													Dense, dark brown, silty fine sand, moist.	
	2	CS	1.5	3.0	11	18	15	14	SP			2.0	Medium dense, light gray, fine sand,	
	3	CS	3.0	4.5	6	7	6	14	SP				moist, fuel odor.	
5													becomes very loose at 4.5 feet.	
	4	CS	4.5	6.0	2	1	1	11	SP				becomes saturated at 5.5 feet.	
	5	CS	6.0	7.5	1	2	1	14	SM			6.5	Very loose, black, silty fine sand,	
													saturated.	
	6	CS	7.5	9.0	2	1	2	14	SM				strong fuel odor at 6.5 feet	
10	7	CS	9.0	10.5	2	5	10	16	SM			9.5	color change to dark gray at 7.5 feet.	
													Medium dense, orange brown mottled	
	8	CS	10.5	12.0	6	20	17	18	SM				with gray silty fine sand, saturated,	
	9	CS	12.0	13.5	4	10	20	15	SM				with some clay. (Merritt Sand)	
													clay decreases to trace at 12.0 feet.	
15	10	CS	13.5	15.0	6	13	25	11	SM					
												15.0	Bottom of Boring at 15.0 feet.	
													Notes:	
20													1. Boring was advanced using 8-inch-diameter hollow stem augers.	
													2. Groundwater was encountered at 5.5 feet during drilling.	
25													3. Sampler type:	
													California Sampler (CS)	
													O.D.: 2.5 inches	
													I.D.: 2.0 inches	
30														
													4. Boring was backfilled with cement/ bentonite grout upon completion of drilling.	
35													5. OVA readings:	
													a) > 1,000 ppm at 2.0 feet.	
													b) 10-20 ppm at 7.5 feet.	
40														

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Soil Boring Log

PROJECT No. 86-018-1804
BORING No. B547-9
LOGGED BY BB

PROJECT NAME NAS Alameda - Phase 2A Site Investigations
BORING LOCATION West of fenced area of Bldg. 547 by power pole SURFACE ELEVATION 114 feet
DRILLER Spectrum Exploration - Garry Buss DATE: START 7/2/90 FINISH 7/2/90

DEPTH	SAMPLE No.	SAMPLE TYPE	INTERVAL FROM	INTERVAL TO	BLOW COUNT 0" to 6"	BLOW COUNT 6" to 12"	BLOW COUNT 12" to 18"	REC (in)	USCS SOIL TYPE	WC (%)	qu (TSF)	LAYER DEPTH	SOIL DESCRIPTION AND REMARKS	PIEZO
	1	CS	0.0	1.5	28	9	9	12	SM			0.3	Asphalt. (Fill)	
													Medium dense, dark brown, silty fine	
	2	CS	1.5	3.0	4	4	5	12	SM				sand, moist.	
	3	CS	3.0	4.5	2	2	1	13	SM				becomes loose at 1.5 feet.	
5													color change to light brown at 2.5 feet.	
	4	CS	4.5	6.0	2	1	1	14	SM				dark brown layer at 4.0 feet.	
	5	CS	6.0	7.5	2	1	4	16	SM-SC			7.0	becomes saturated at 4.5 feet.	
													Loose, dark brown mottled with gray	
	6	CS	7.5	9.0	6	10	14	16	SC-SM			8.0	and orange clayey fine sand, saturated	
10	7	CS	9.0	10.5	7	12	10	15	SM				Medium dense, reddish brown & gray,	
													silty fine sand, saturated, with	
	8	CS	10.5	12.0	6	10	9	18	SM				some clay. (Merritt Sand)	
	9	CS	12.0	13.5	4	3	4	6	SM				color change to brown gray at 13.5	
													feet.	
15	10	CS	13.5	15.0	10	10	11	17	SM				clay decreases to none at 13.5 feet.	
												15.0	Bottom of Boring at 15.0 feet.	
													Notes:	
20													1. Boring was advanced using 8-inch-diameter hollow stem augers.	
													2. Groundwater was encountered at 4.5 feet during drilling.	
25													3. Sampler type:	
													California Sampler (CS)	
													O.D.: 2.5 inches	
													I.D.: 2.0 inches	
30														
													4. Boring was backfilled with cement/ bentonite grout upon completion of drilling.	
35													5. OVA readings: No OVA readings observed during drilling.	
40														

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Soil Boring Log

PROJECT No. 86-018-1804
BORING No. B547-10
LOGGED BY BB

PROJECT NAME NAS Alameda - Phase 2A Site Investigations
BORING LOCATION S side of fenced area of Bldg. 547, by dual gates SURFACE ELEVATION 114.9 feet
DRILLER Spectrum Exploration - Garry Buss DATE: START 7/2/90 FINISH 7/2/90

DEPTH	SAMPLE No.	TYPE	INTERVAL FROM	INTERVAL TO	BLOW COUNT 0" 6"	BLOW COUNT 6" 12"	BLOW COUNT 12" 18"	REC (in)	USCS SOIL TYPE	WC (%)	qu (TSF)	LAYER DEPTH	SOIL DESCRIPTION AND REMARKS	PIEZO
	1	CS	0.0	1.5	10	19	19	14	SM			0.3	Asphalt. (Fill)	
													Dense, dark brown, silty fine sand,	
	2	CS	1.5	3.0	7	8	5	12	SM				moist, some gravel from 0.3-1.5 feet.	
	3	CS	3.0	4.5	3	3	3	15	SM				becomes medium dense at 1.5 feet.	
5													becomes loose at 3.0 feet.	
	4	CS	4.5	6.0	1	2	3	15	SM				color change to black at 3.5 feet.	
	5	CS	6.0	7.5	2	4	3	18	SM				becomes saturated at 5.0 feet.	
	6	CS	7.5	9.0	2	2	3	16	SM					
10	7	CS	9.0	10.5	2	2	3	16	SM				color change to dark brown at 9.5 feet.	
	8	CS	10.5	12.0	3	7	13	17	SM			10.5	Medium dense, dark brown and gray,	
	9	CS	12.0	13.5	6	8	8	15	SM				silty fine sand, saturated, with	
													some clay.	
15	10	CS	13.5	15.0	5	13	15	17	SM				color change to reddish brown mottled	
													gray at 12.5 feet.	
												15.0	Bottom of Boring at 15.0 feet.	
													Notes:	
20														
													1. Boring was advanced using 8-inch-diameter hollow stem augers.	
													2. Groundwater was encountered at 5.0 feet during drilling.	
25														
													3. Sampler type:	
													California Sampler (CS)	
													O.D.: 2.5 inches	
30													I.D.: 2.0 inches	
													4. Boring was backfilled with cement/ bentonite grout upon completion of drilling.	
35														
													5. OVA readings:	
													a) 2 ppm at 3.5 feet.	
													b) 15-30 ppm at 6.0 feet.	
40														

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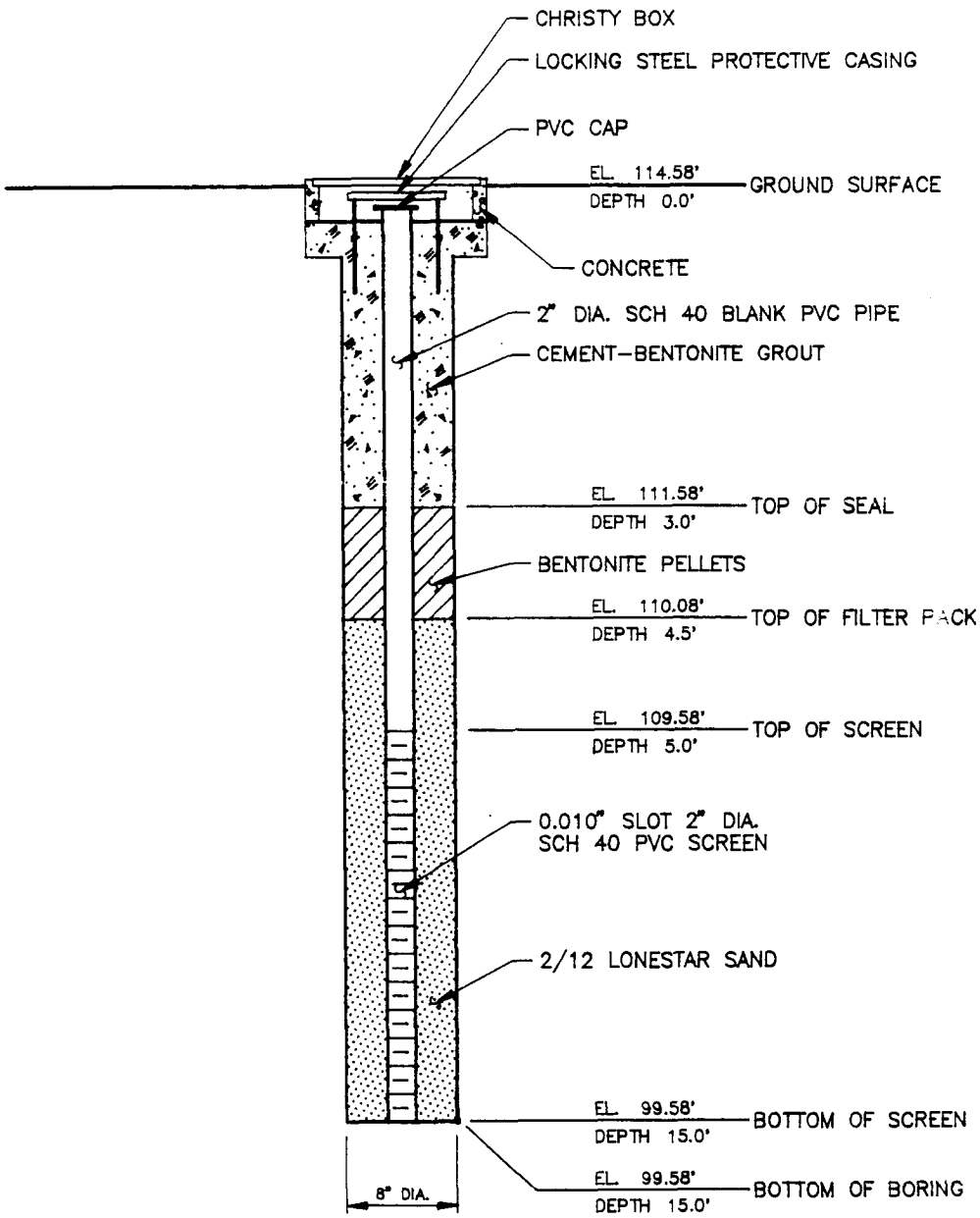
Monitoring Well Detail

PROJECT No. 86-018-1804

WELL No. MW547-1

PROJECT NAME NAS ALAMEDA-PHASE 2A SITE INVESTIGATION

WELL LOCATION AREA 547, NORTHWEST CORNER AT GATE DATE 6-29-90 BY RMD



NOTES:

1. NOT DRAWN TO SCALE.
2. SEE BORING LOG FOR DETAILED SOIL DESCRIPTION.

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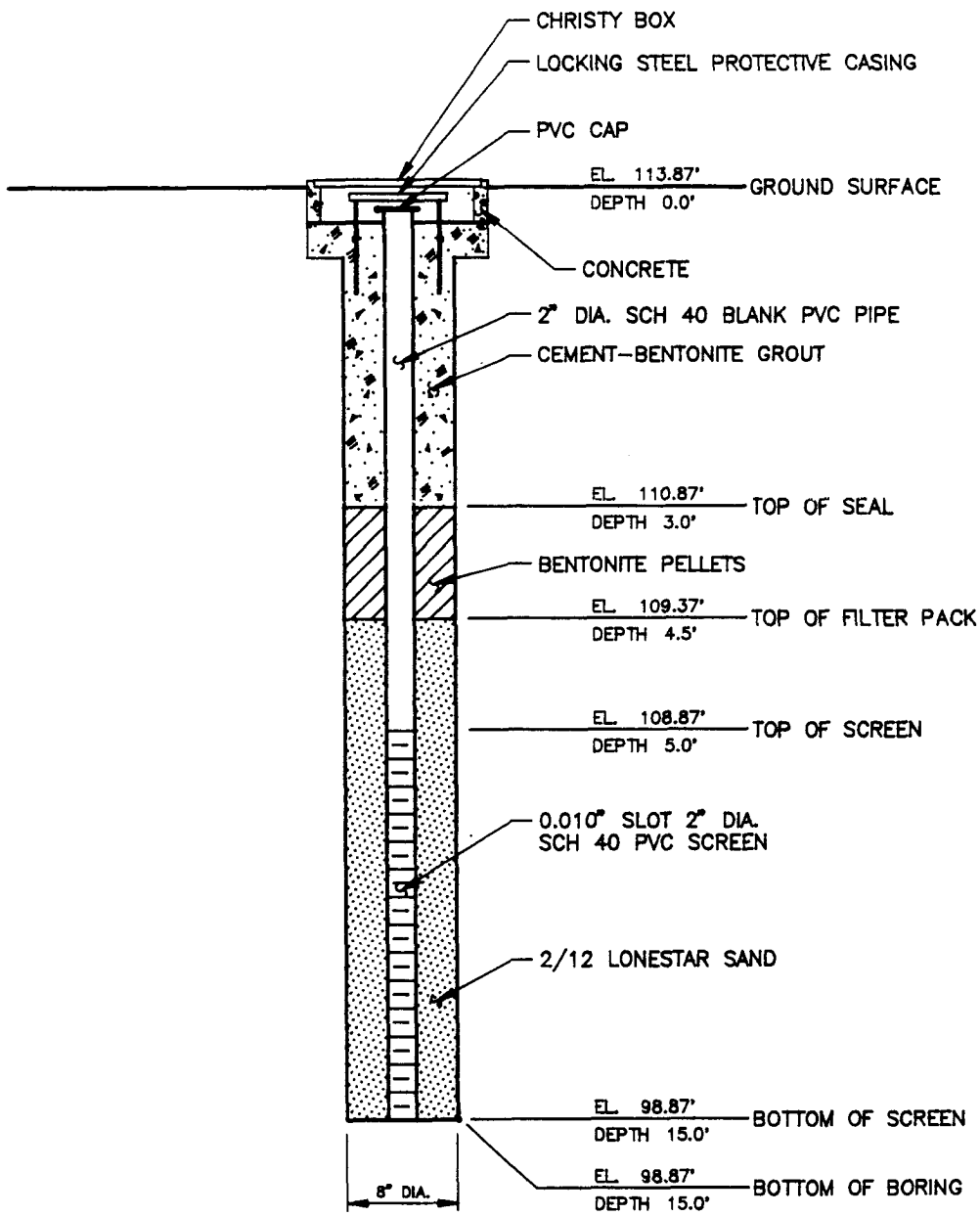
Monitoring Well Detail

PROJECT No. 86-018-1804

WELL No. MW547-2

PROJECT NAME NAS ALAMEDA-PHASE 2A SITE INVESTIGATION

WELL LOCATION AREA 547, NORTHEAST CORNER DATE 6-29-90 BY RMD



NOTES:

1. NOT DRAWN TO SCALE.
2. SEE BORING LOG FOR DETAILED SOIL DESCRIPTION.

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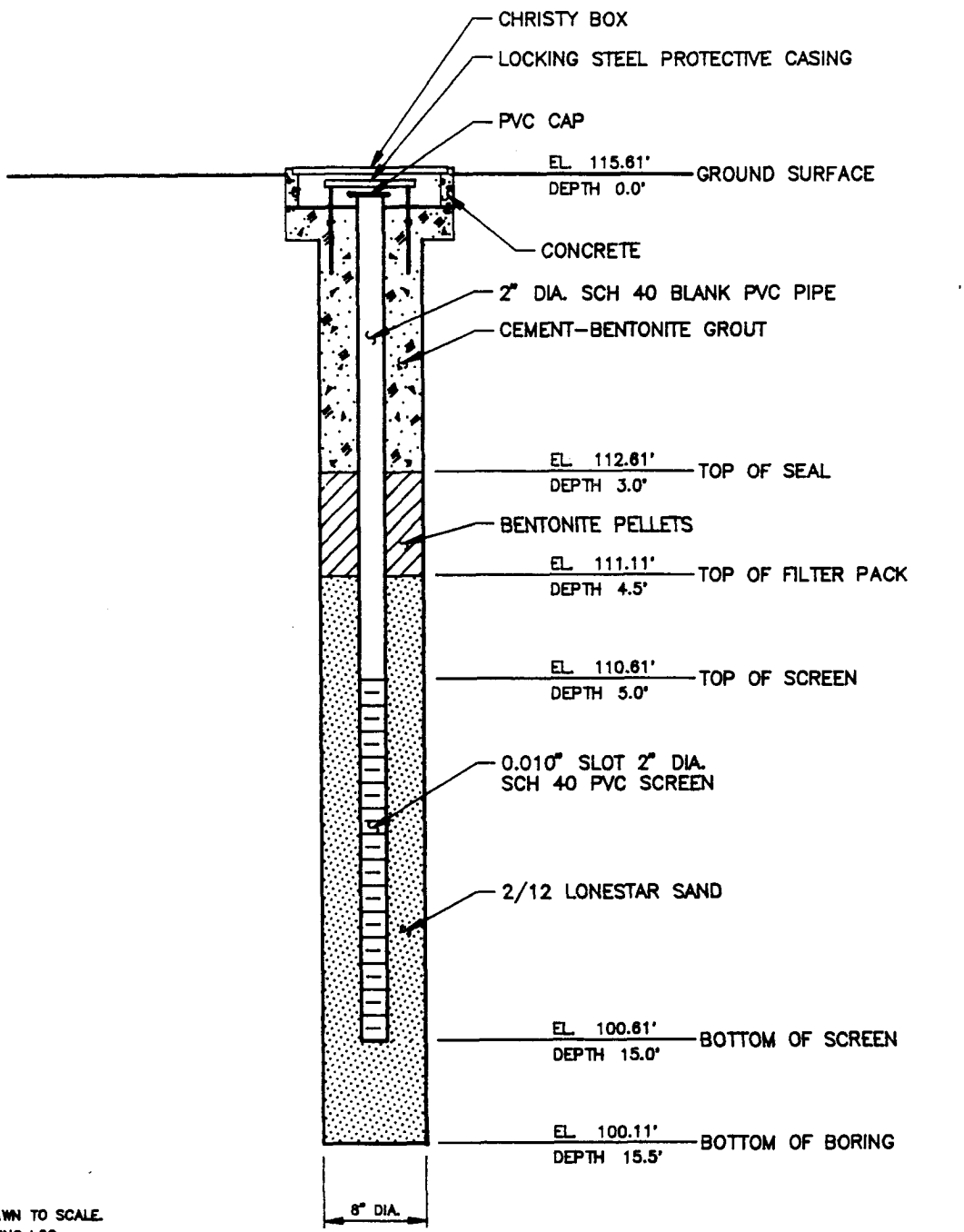
Monitoring Well Detail

PROJECT No. 86-018-1804

WELL No. MW547-3

PROJECT NAME NAS ALAMEDA-PHASE 2A SITE INVESTIGATION

WELL LOCATION AREA 547, SOUTH OF GASOLINE ISLAND DATE 7-2-90 BY RMD



NOTES:

1. NOT DRAWN TO SCALE.
2. SEE BORING LOG FOR DETAILED SOIL DESCRIPTION.

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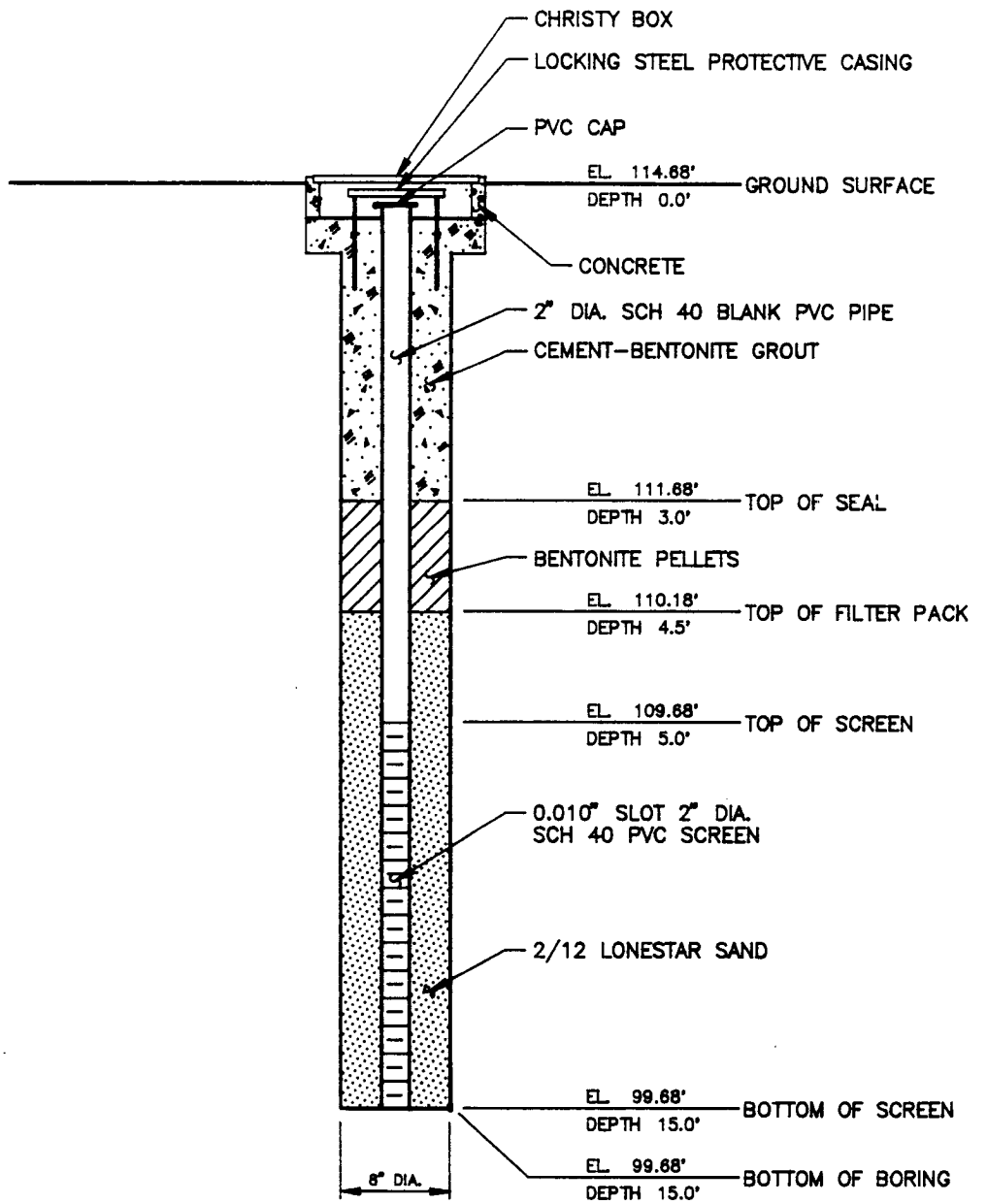
Monitoring Well Detail

PROJECT No. 86-018-1804

WELL No. MW547-4

PROJECT NAME NAS ALAMEDA--PHASE 2A SITE INVESTIGATION

WELL LOCATION AREA 547, SOUTHWEST CORNER DATE 6-28-90 BY BB



NOTES:

1. NOT DRAWN TO SCALE.
2. SEE BORING LOG FOR DETAILED SOIL DESCRIPTION.

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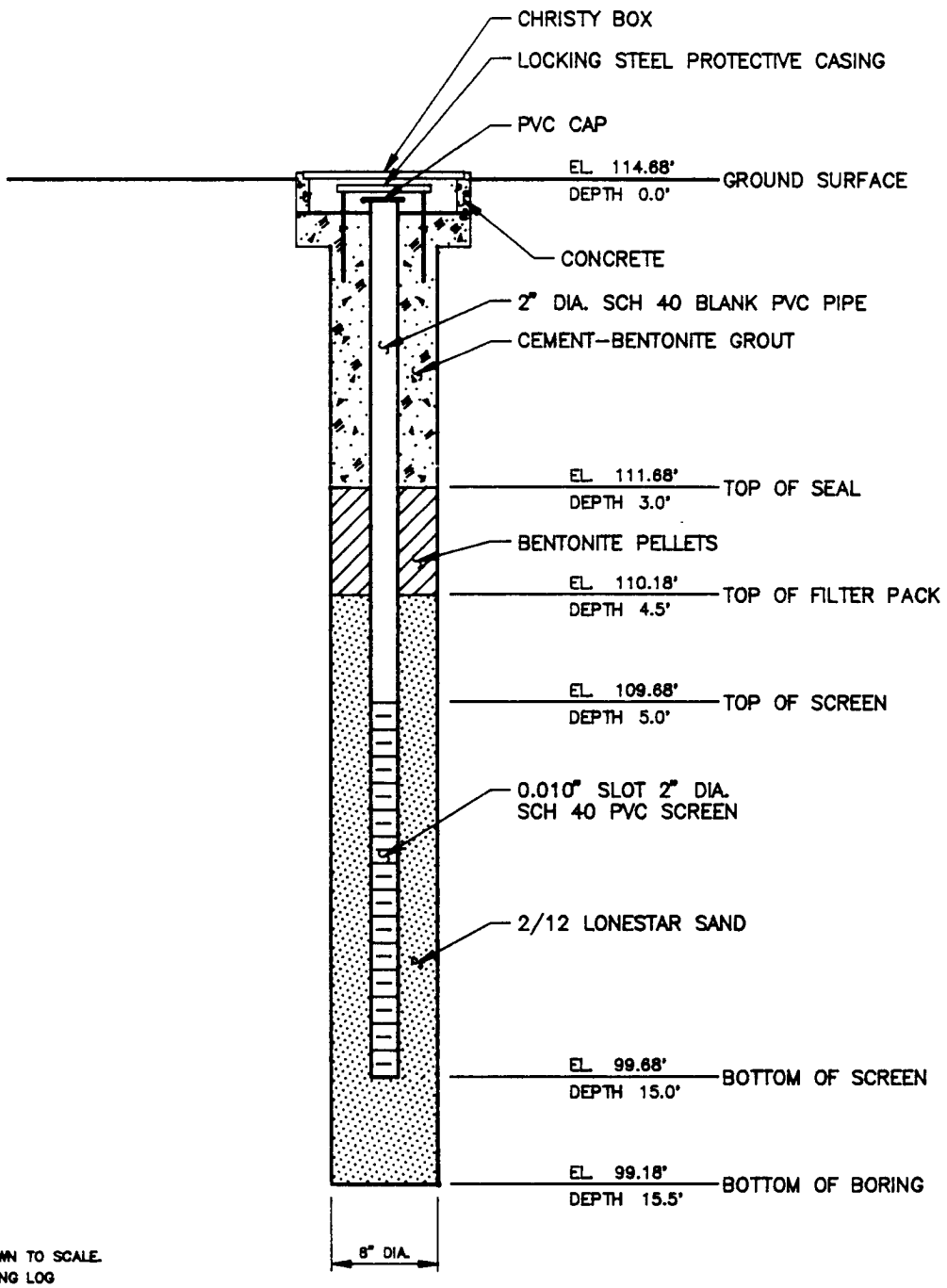
Monitoring Well Detail

PROJECT No. 86-018-1804

WELL No. MW547-5

PROJECT NAME NAS ALAMEDA-PHASE 2A SITE INVESTIGATION

WELL LOCATION AREA 547, SOUTHEAST CORNER DATE 6-29-90 BY RMD



NOTES:

1. NOT DRAWN TO SCALE.
2. SEE BORING LOG FOR DETAILED SOIL DESCRIPTION.

APPENDIX C

YARD D-13
BORING LOGS AND MONITORING WELL CONSTRUCTION DETAILS

Soil Boring Log

PROJECT No. 86-018-1804
BORING No. MWD13-1
LOGGED BY BB

PROJECT NAME: NAS Alameda - Phase 2A Site Investigations
BORING LOCATION: N side of yard D13, inside fence by N gate SURFACE ELEV. 114.57 feet
DRILLER: Spectrum Exploration - Garry Buss DATE: START 7/11/90 FINISH 7/11/90

DEPTH	SAMPLE No.	SAMPLE TYPE	INTERVAL FROM	INTERVAL TO	BLOW COUNT 0" to 6"	BLOW COUNT 6" to 12"	BLOW COUNT 12" to 18"	REC (in)	USCS SOIL TYPE	WC (%)	qu (TSF)	LAYER DEPTH	SOIL DESCRIPTION AND REMARKS	PIEZO
	1	CS	0.0	1.5	20	6	16	14	SM			0.3	Asphalt. (Fill)	
													Medium dense to dense, light brown, silty fine sand, dry. (Fill)	
	2	CS	1.5	3.0	10	20	13	14	SM					
	3	CS	3.0	4.5	1	2	3	14	SM			3.5	Very loose, dark brown, mottled, gray silty fine sand, moist, with some pockets of gray clay.	
5														
	4	CS	4.5	6.0	2	1	1	0	SM					X
	5	CS	6.0	7.5	1	1	2	12	SM				color changes to balck at 4.5 feet.	X
														X
	6	CS	7.5	9.0	2	1	3	15	SM-SC			8.0	Very loose, mottled gray, orange brown, silty clayey fine sand, saturated, with some silt. (Merritt Sand)	X
10	7	CS	9.0	10.5	5	10	15	18	SC					X
														X
	8	CS	10.5	12.0	6	13	16	16	SC				become medium dense at 9.0 feet.	X
	9	CS	12.0	13.5	11	10	6	16	SC				thin layer of sandy, clay at 9.0 feet.	X
														X
15	10	CS	13.5	15.0	6	6	10	8	SC					X
												15.0	Bottom of Boring at 15.0 feet.	
													Notes:	
20													1. Boring was advanced using 8-inch-diameter hollow stem augers.	
													2. Groundwater was encountered at 6.5 feet during drilling.	
25													3. Sampler type: California Sampler (CS) O.D.: 2.5 inches I.D.: 2.0 inches	
													4. Boring was converted to a monitoring well upon completion of drilling.	
30													5. OVA readings: No OVA readings observed during drilling.	
35														
40														

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Soil Boring Log

PROJECT No. 86-018-1804
BORING No. MWD13-2
LOGGED BY TGB

PROJECT NAME: NAS Alameda - Phase 2A Site Investigations
BORING LOCATION: North end of yard D13, west of Bldg 616 SURFACE ELEV. 113.90 feet
DRILLER: Spectrum Exploration - Garry Buss DATE: START 7/6/90 FINISH 7/6/90

DEPTH	SAMPLE No.	TYPE	INTERVAL FROM	INTERVAL TO	BLOW COUNT 0" to 6"	BLOW COUNT 6" to 12"	BLOW COUNT 12" to 18"	REC (in)	USCS SOIL TYPE	WC (%)	qu (TSF)	LAYER DEPTH	SOIL DESCRIPTION AND REMARKS	PIEZO
													Asphalt. (Fill)	
	1	CS	0.5	2.0	14	18	16	18	GM			0.3	Dense, brown, silty gravel, moist. (Fill)	
	2	CS	2.0	3.5	15	22	20	15	GM					
5	3	CS	3.5	5.0	9	19	17	18	SM			3.5	Medium dense, brown, silty fine sand,	
	4	CS	5.0	6.5	5	10	11	18	SM				moist.	X
													becomes saturated at 5.5 feet.	X
	5	CS	6.5	8.0	8	10	6	15	SM				color changes to gray from 6.5-7.5 feet.	X
	6	CS	8.0	9.5	4	2	1	18	SM				thin layer of organic matter at 9.0 feet.	X
10														X
	7	CS	9.5	11.0	1	1	6	18	SM					X
	8	CS	11.0	12.5	8	11	10	18	SC			11.0	Medium dense, orange brown mottled	X
													with gray, clayey fine sand, saturated,	X
	9	CS	12.5	14.0	4	13	15	18	SC				with some silt.	X
15	10	CS	14.0	15.5	4	9	12	18	SC				increase in silt content below 13.0 feet.	X
												15.5	Bottom of Boring at 15.5 feet.	
													Notes:	
20													1. Boring was advanced using 8-inch-diameter hollow stem augers.	
													2. Groundwater was encountered at 5.5 feet during drilling.	
25													3. Sampler type: California Sampler (CS) O.D.: 2.5 inches I.D.: 2.0 inches	
30													4. Boring was converted to a monitoring well upon completion of drilling.	
35													5. OVA readings: a) 200 ppm at 1.5 feet. b) 20-30 ppm at 3.0 feet.	
40														

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Soil Boring Log

PROJECT No. 86-018-1804
BORING No. MWD13-3
LOGGED BY TGB

PROJECT NAME: NAS Alameda - Phase 2A Site Investigations
BORING LOCATION: SW corner of yard D13, by west fence SURFACE ELEV. 114.36 feet
DRILLER: Spectrum Exploration - Garry Buss DATE: START 7/6/90 FINISH 7/6/90

DEPTH	SAMPLE No.	SAMPLE TYPE	SAMPLE INTERVAL FROM	SAMPLE INTERVAL TO	BLOW COUNT 0" to 6"	BLOW COUNT 6" to 12"	BLOW COUNT 12" to 18"	REC (in)	USCS SOIL TYPE	WC (%)	qu (TSF)	LAYER DEPTH	SOIL DESCRIPTION AND REMARKS	PIEZO
													Asphalt. (Fill)	
	1	CS	0.5	2.0	8	10	15	12	SM			0.5	Medium dense, light brown, silty fine sand, dry. (Fill)	
	2	CS	2.0	3.5	5	8	6	12	SM					
5	3	CS	3.5	5.0	3	1	1	12	SM				becomes saturated at 5.0 feet.	
	4	CS	5.0	6.5	2	7	9	6	SM			6.5	Concrete rubble between 5 and 10 feet. (Fill) (driller noted resistance at 5.0 feet. boring location moved three times due to refusal.)	X
10	5	CS	10.0	11.5	5	5	5	12	CL			10.0	Medium stiff, dark gray, silty clay.	X
	6	CS	11.5	13.0	7	13	18	18	SC			11.7	Medium dense, orange brown mottled with clayey, fine sand, saturated, with some silt. (Merritt Sand)	X
	7	CS	13.0	14.5	8	9	19	18	SC					X
15	8	CS	14.5	15.0	10	12	15	6	SC					X
												15.0	Bottom of Boring at 15.0 feet.	
20													Notes:	
													1. Boring was advanced using 8-inch-diameter hollow stem augers.	
													2. Groundwater was encountered at 5.0 feet during drilling.	
25													3. Sampler type: California Sampler (CS) O.D.: 2.5 inches I.D.: 2.0 inches	
30													4. Boring was converted to a monitoring well upon completion of drilling.	
35													5. OVA readings: a) 2 ppm at 11.7 feet.	
40														

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Soil Boring Log

PROJECT No. 86-018-1804
BORING No. MWD13-4
LOGGED BY RMD

PROJECT NAME: NAS Alameda - Phase 2A Site Investigations
BORING LOCATION: Yard D13 by the south gate SURFACE ELEV. 115.69 feet
DRILLER: Spectrum Exploration - Garry Buss DATE: START 7/9/90 FINISH 7/9/90

DEPTH	SAMPLE No.	SAMPLE TYPE	SAMPLE INTERVAL FROM	SAMPLE INTERVAL TO	BLOW COUNT 0" to 6"	BLOW COUNT 6" to 12"	BLOW COUNT 12" to 18"	REC (in)	USCS SOIL TYPE	WC (%)	qu (TSF)	LAYER DEPTH	SOIL DESCRIPTION AND REMARKS	PIEZO
													Asphalt. (Fill)	
	1	CS	2.0	3.5	30	21	19	17	SP			2.8	Dense, light brown, fine sand, moist. (Fill)	
5	2	CS	3.5	5.0	15	19	19	12	SP					
								0				5.0	Concrete rubble and silty sand. (Fill)	X
													augered between 5 and 8 feet.	X
								0					saturated below 6.5 feet.	X
	3	CS	8.0	9.5	40	25	35	8	GP			8.0	Dense, gray, silty sandy gravel, saturated.	X
10													(Fill)	X
	4	CS	9.5	11.0	5	30	50	17	GP					X
													augered between 11.0 and 12.5 feet.	X
														X
	5	CS	12.5	14.0	10	15	15	0	SM			12.5	Medium dense, brown, silty fine sand,	X
15	6	CS	14.0	15.5	8	10	15	18	SM				saturated.	X
												15.5	Bottom of Boring at 15.5 feet.	
													Notes:	
20													1. Boring was advanced using 8-inch-diameter hollow stem augers.	
													2. Groundwater was encountered at 6.5 feet during drilling.	
25													3. Sampler type: California Sampler (CS) O.D.: 2.5 inches I.D.: 2.0 inches	
30													4. Boring was converted to a monitoring well upon completion of drilling.	
													5. OVA readings: No OVA readings observed during drilling.	
35														
40														

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Soil Boring Log

PROJECT No. 86-018-1804
BORING No. BD13-5
LOGGED BY RMD

PROJECT NAME: NAS Alameda - Phase 2A Site Investigations
BORING LOCATION: Northwest corner of Yard D13 SURFACE ELEV. 113.9 feet
DRILLER: Spectrum Exploration - Garry Buss DATE: START 7/3/90 FINISH 7/3/90

DEPTH	SAMPLE No.	SAMPLE TYPE	SAMPLE INTERVAL FROM	SAMPLE INTERVAL TO	BLOW COUNT 0" to 6"	BLOW COUNT 6" to 12"	BLOW COUNT 12" to 18"	REC (in)	USCS SOIL TYPE	WC (%)	qu (TSF)	LAYER DEPTH	SOIL DESCRIPTION AND REMARKS	PIEZO
	1	CS	0.0	1.5	9	13	13	15	SM				Asphalt. (Fill)	
												1.0	Loose, brown, silty fine sand, moist. (Fill)	
	2	CS	1.5	3.0	8	16	17	15	SM				becomes medium dense below 1.5 feet.	
	3	CS	3.0	4.5	6	8	6	16	SM					
5													becomes saturated below 4.5 feet.	
	4	CS	4.5	6.0	2	5	10	12	SM				color change to gray brown at 5.8 feet.	
	5	CS	6.0	7.5	5	3	6	12	SM					
												7.5	Loose, gray silty gravelly fine sand,	
	6	CS	7.5	9.0	5	3	6	0	SP				saturated, with concrete and brick	
10	7	CS	9.0	10.5	6	9	8	16	SM			9.0	fragments. (Fill)	
													Medium dense orange brown, clayey,	
	8	CS	10.5	12.0	8	15	16	16	SM				silty fine sand, saturated, with trace	
	9	CS	12.0	13.5	4	10	10	16	SM				of clay. (Merritt Sand)	
													some gray mottling between 11 and	
15	10	CS	13.5	15.0	6	10	11	14	SM				12.5 feet.	
												15.0	Bottom of Boring at 15.0 feet.	
													Notes:	
20													1. Boring was advanced using 8-inch-diameter hollow stem augers.	
													2. Groundwater was encountered at 4.5 feet during drilling.	
25													3. Sampler type: California Sampler (CS) O.D.: 2.5 inches I.D.: 2.0 inches	
30													4. Boring was backfilled with cement/ bentonite grout upon completion of drilling.	
35													5. OVA readings: No OVA readings observed during drilling.	
40														

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Soil Boring Log

PROJECT No. 86-018-1804
BORING No. BD13-6
LOGGED BY BB

PROJECT NAME: NAS Alameda - Phase 2A Site Investigations
BORING LOCATION: NE corner of Building 616 in Yard D13 SURFACE ELEV. 114.1 feet
DRILLER: Spectrum Exploration - Garry Buss DATE: START 7/3/90 FINISH 7/3/90

DEPTH	SAMPLE No.	TYPE	INTERVAL FROM	INTERVAL TO	BLOW COUNT 0" to 6"	BLOW COUNT 6" to 12"	BLOW COUNT 12" to 18"	REC (in)	USCS SOIL TYPE	WC (%)	qu (TSF)	LAYER DEPTH	SOIL DESCRIPTION AND REMARKS	PIEZO
	1	CS	0.0	1.5	10	15	18	15	SM			0.3	Asphalt. (Fill)	
													Medium dense, light brown, silty fine sand,	
	2	CS	1.5	3.0	8	16	13	15	SM				moist. (Fill)	
	3	CS	3.0	4.5	7	12	12	15	SM					
5														
	4	CS	4.5	6.0	5	6	4	12	SM			5.0	Loose to medium dense, dark gray, silty	
	5	CS	6.0	7.5	2	5	6	18	SM			7.0	fine sand, saturated. (Fill)	
													thin layer of silty clay at 6.5 feet.	
	6	CS	7.5	9.0	3	3	5	18	SM			8.0	Medium dense dark gray, silty fine sand,	
10	7	CS	9.0	10.5	3	5	15	18	SC				saturated.	
													Loose reddish brown mottled gray,	
	8	CS	10.5	12.0	2	8	18	18	SC				clayey fine sand, saturated, with some	
	9	CS	12.0	13.5	4	10	16	16	SC				silt, (Merritt Sand)	
													becomes medium dense below 9 feet.	
15	10	CS	13.5	15.0	5	5	20	18	SC					
												15.0	Bottom of Boring at 15.0 feet.	
													Notes:	
20													1. Boring was advanced using 8-inch-diameter hollow stem augers.	
													2. Groundwater was encountered at 5.0 feet during drilling.	
25													3. Sampler type: California Sampler (CS) O.D.: 2.5 inches I.D.: 2.0 inches	
30													4. Boring was backfilled with cement/ bentonite grout upon completion of drilling.	
35													5. OVA readings: a) 10 ppm at 0.5 feet. b) 30 ppm at 6.5 feet.	
40														

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Soil Boring Log

PROJECT No. 86-018-1804
BORING No. BD13-7
LOGGED BY RMD

PROJECT NAME: NAS Alameda - Phase 2A Site Investigations
BORING LOCATION: Northeast corner of Yard D13 SURFACE ELEV. 114.1 feet
DRILLER: Spectrum Exploration - Garry Buss DATE: START 7/3/90 FINISH 7/3/90

DEPTH	SAMPLE No.	TYPE	INTERVAL FROM	INTERVAL TO	BLOW COUNT 0" to 6"	BLOW COUNT 6" to 12"	BLOW COUNT 12" to 18"	REC (in)	USCS SOIL TYPE	WC (%)	qu (TSF)	LAYER DEPTH	SOIL DESCRIPTION AND REMARKS	PIEZO
	1	CS	0.0	1.5	15	18	14	15	SM			0.3	Asphalt. (Fill)	
													Medium dense, light brown, silty fine sand. (Fill)	
	2	CS	1.5	3.0	4	6	12	12	SM				some cobbles and wood fragments between 3 to 4.5 feet.	
5														
	3	CS	4.5	6.0	5	7	5	18	SM			4.5	Loose, medium dense dark brown, silty	
	4	CS	6.0	7.5	3	5	7	12	SM			7.0	fine sand, saturated.	
													Medium dense brown, silty fine sand.	
	5	CS	7.5	9.0	3	3	4	15	SM					
10	6	CS	9.0	10.5	6	6	11	14	SM-SC			9.5	Medium dense orange brown, mottled gray, clayey fine sand, with some gray mottled abundant iron-stained laminations at top of unit. (Merritt Sand)	
	7	CS	10.5	12.0	2	2	4	15	SC					
	8	CS	12.0	13.5	5	8	10	15	SC					
15	9	CS	13.5	15.0	8	15	15	14	SC					
												15.0	Bottom of Boring at 15.0 feet.	
													Notes:	
20													1. Boring was advanced using 8-inch-diameter hollow stem augers.	
													2. Groundwater was encountered at 4.5 feet during drilling.	
25													3. Sampler type: California Sampler (CS) O.D.: 2.5 inches I.D.: 2.0 inches	
30													4. Boring was backfilled with cement/ bentonite grout upon completion of drilling.	
35													5. OVA readings: No OVA readings observed during drilling.	
40														

Canonie Environmental

Soil Boring Log

PROJECT No. 86-018-1804
BORING No. BD13-8
LOGGED BY RMD

PROJECT NAME: NAS Alameda - Phase 2A Site Investigations
BORING LOCATION: South of Building 616 in Yard D13 SURFACE ELEV. 114.5 feet
DRILLER: Spectrum Exploration - Garry Buss DATE: START 7/5/90 FINISH 7/5/90

DEPTH	SAMPLE No.	SAMPLE TYPE	INTERVAL FROM	INTERVAL TO	BLOW COUNT 0" to 6"	BLOW COUNT 6" to 12"	BLOW COUNT 12" to 18"	REC (in)	USCS SOIL TYPE	WC (%)	qu (TSF)	LAYER DEPTH	SOIL DESCRIPTION AND REMARKS	PIEZO
	1	CS	0.0	1.5	30	17	20	13	SP			0.3	Asphalt. (Fill)	
												0.8	Base rock. (Fill)	
	2	CS	1.5	3.0	7	12	13	14	SP				Medium dense, light brown, fine sand, moist. (Fill)	
	3	CS	3.0	4.5	5	4	9	12	SP				becomes saturated below 4.5 feet.	
5														
	4	CS	4.5	6.0	10	15	14	13	SM			5.0	Medium dense, grayish brown, gravelly silty sand, saturated. (Fill)	
	5	CS	6.0	7.5	7	7	3	12	SM				(driller reports very runny, some rock fragments.)	
	6	CS	7.5	9.0	3	4	12	8	SM					
10	7	CS	9.0	10.5	4	10	9	9	SM					
	8	CS	10.5	12.0	5	5	10	15	SC			10.5	Medium dense, gray, clayey fine sand, saturated.	
	9	CS	12.0	13.5	5	10	20	13	SC			11.5	black discoloration and soupy conditions at 10.5 feet, strong odor.	
15	10	CS	13.5	15.0	7	10	15	9	SC				some gravel and rock fragments. (Fill)	
												15.0	Medium dense to to dense, orange brown, clayey sand, saturated. (Merritt Sand)	
													some gray mottling at 14 feet.	
20													Bottom of Boring at 15.0 feet.	
													Notes:	
													1. Boring was advanced using 8-inch-diameter hollow stem augers.	
25														
													2. Groundwater was encountered at 5.0 feet during drilling.	
													3. Sampler type: California Sampler (CS) O.D.: 2.5 inches I.D.: 2.0 inches	
30														
35													4. Boring was backfilled with cement/ bentonite grout upon completion of drilling.	
													5. OVA readings:	
40													a) 10 -30 ppm at 6.5 feet.	
													b) 20 ppm at 9.0 feet.	
													c) 100-150 ppm at 10.5 feet.	

Canonie Environmental

Soil Boring Log

PROJECT No. 86-018-1804
BORING No. BD13-9
LOGGED BY RMD

PROJECT NAME: NAS Alameda - Phase 2A Site Investigations
BORING LOCATION: South of SE corner of Building 616 SURFACE ELEV. 114.7 feet
DRILLER: Spectrum Exploration - Garry Buss DATE: START 7/5/90 FINISH 7/5/90

DEPTH	SAMPLE No.	SAMPLE TYPE	SAMPLE INTERVAL FROM	SAMPLE INTERVAL TO	BLOW COUNT 0" 6"	BLOW COUNT 6" 12"	BLOW COUNT 12" 18"	REC (in)	USCS SOIL TYPE	WC (%)	qu (TSF)	LAYER DEPTH	SOIL DESCRIPTION AND REMARKS	PIEZO
	1	CS	0.0	1.5	16	20	18	13	SM				Asphalt. (Fill)	
												0.8	Medium dense to dense, brown, silty fine	
	2	CS	1.5	3.0	10	17	14	15	SM				sand, moist. (Fill)	
	3	CS	3.0	4.5	6	7	7	14	SM					
5													saturated below 4.5 feet.	
	4	CS	4.5	6.0	4	7	5	12	SM				thin layer of gray clay at 4.5 feet.	
	5	CS	6.0	7.5	15	9	17	16	SM-SP			6.5	interlayered gray clay below 5 feet.	
													Medium dense, gray, fine to medium sand,	
	6	CS	7.5	9.0	4	10	12	18	SP				saturated, with abundant tiny round	
10	7	CS	9.0	10.5	4	14	20	16	SP-SC			9.7	shells.	
													Dense, orange brown clayey sand,	
	8	CS	10.5	12.0	5	12	18	16	SC				saturated. (Merritt Sand)	
	9	CS	12.0	13.5	12	12	15	15	SC				thin layer of gray silty sand at 10.5 to	
													11.3 feet, some shells.	
15	10	CS	13.5	15.0	15	21	15	18	SC					
												15.0	Bottom of Boring at 15 feet.	
													Notes:	
20													1. Boring was advanced using 8-inch-diameter hollow stem augers.	
													2. Groundwater was encountered at 4.5 feet during drilling.	
25													3. Sampler type: California Sampler (CS) O.D.: 2.5 inches I.D.: 2.0 inches	
30													4. Boring was backfilled with cement/ bentonite grout upon completion of drilling.	
35													5. OVA readings: No OVA readings observed during drilling.	
40														

Canonie Environmental

Soil Boring Log

PROJECT No. 86-018-1804
BORING No. BD13-10
LOGGED BY GM

PROJECT NAME: NAS Alameda - Phase 2A Site Investigations
BORING LOCATION: Southeast of Building 616 in Yard D13 SURFACE ELEV. 114.6 feet
DRILLER: Spectrum Exploration - Garry Buss DATE: START 7/5/90 FINISH 7/5/90

DEPTH	SAMPLE No.	TYPE	INTERVAL FROM	INTERVAL TO	BLOW COUNT 0"-6"	BLOW COUNT 6"-12"	BLOW COUNT 12"-18"	REC (in)	USCS SOIL TYPE	WC (%)	qu (TSF)	LAYER DEPTH	SOIL DESCRIPTION AND REMARKS	PIEZO
	1	CS	0.0	1.5	12	20	15	13	SM				Asphalt. (Fill)	
												0.8	Medium dense, light brown, silty fine sand, dry. (Fill)	
	2	CS	1.5	3.0	5	4	5	12	SM				color change to dark brown at 3.0 feet.	
	3	CS	3.0	4.5	5	7	7	15	SM				saturated below 4.5 feet.	
5													color change to gray at 7.0 feet.	
	4	CS	4.5	6.0	2	4	4	14	SM					
	5	CS	6.0	7.5	2	3	2	18	SM-SC					
	6	CS	7.5	9.0	3	3	5	15	SC-SC			8.5	Medium dense, mottled gray-orange	
10	7	CS	9.0	10.5	7	9	10	18	CL			9.7	brown clayey sand, saturated. (Merritt Sand)	
	8	CS	10.5	12.0	10	14	9	18	CL-SC			11.0	Medium dense, mottled orange brown,	
	9	CS	12.0	13.5	10	12	13		SC				gray sandy clay, saturated, some layers of silty fine sand. (Merritt Sand)	
15	10	CS	13.5	15.0	9	14	16		SC				Medium dense orange brown, clayey	
												15.0	sand, saturated, some layers of silty sand. (Merritt Sand)	
													Bottom of Boring at 15.0 feet.	
20													Notes:	
													1. Boring was advanced using 8-inch-diameter hollow stem augers.	
25													2. Groundwater was encountered at 4.5 feet during drilling.	
													3. Sampler type: California Sampler (CS) O.D.: 2.5 inches I.D.: 2.0 inches	
30														
													4. Boring was backfilled with cement/ bentonite grout upon completion of drilling.	
35													5. OVA readings: No OVA readings observed during drilling.	
40														

Canonie Environmental

Soil Boring Log

PROJECT No. 86-018-1804
BORING No. BD13-11
LOGGED BY BB

PROJECT NAME: NAS Alameda - Phase 2A Site Investigations
BORING LOCATION: West side of Yard D13 by fence SURFACE ELEV. 114.2 feet
DRILLER: Spectrum Exploration - Garry Buss DATE: START 7/10/90 FINISH 7/10/90

DEPTH	SAMPLE No.	SAMPLE TYPE	SAMPLE INTERVAL FROM	SAMPLE INTERVAL TO	BLOW COUNT 0" to 6"	BLOW COUNT 6" to 12"	BLOW COUNT 12" to 18"	REC (in)	USCS SOIL TYPE	WC (%)	qu (TSF)	LAYER DEPTH	SOIL DESCRIPTION AND REMARKS	PIEZO
													Asphalt. (Fill)	
	1	CS	0.5	2.0	12	9	15	14	SM			0.5	Medium dense, light brown, silty fine sand, moist. (Fill)	
	2	CS	2.0	3.5	10	13	10	15	SM					
5	3	CS	3.5	5.0	3	11	13	13	SM			4.5	Medium dense, orange dark brown to brown gray, gravelly silty sand, moist. (Fill)	
	4	CS	5.0	6.5	11	13		6	SM				concrete and rock debris below 6.5 feet. (auger tipped sideways due to concrete; hole was relocated; interval started at 6.5 feet.)	
	5	CS	6.5	8.0	3	5	6	6	SM					
	6	CS	8.0	9.5	4	25		6	SM					
10	7	CS	9.5	11.0	4	6	6	6	SM			10.0	color changes to gray at 8.0 feet.	
	8	CS	11.0	12.5	9	10	19	12	CL			11.5	Medium stiff dark gray, silty sandy clay, saturated.	
	9	CS	12.5	14.0	10	20	30	18	SC					
15	10	CS	14.0	15.5	18	16	25	18	SC			15.5	Medium, dense, orange brown clayey fine sand, saturated. (Merritt Sand) becomes dense at 14.0 feet.	
													Bottom of Boring at 15.5 feet.	
20													Notes:	
													1. Boring was advanced using 8-inch-diameter hollow stem augers.	
25													2. Groundwater was encountered at 6.5 feet during drilling.	
													3. Sampler type: California Sampler (CS) O.D.: 2.5 inches I.D.: 2.0 inches	
30													4. Boring was backfilled with cement/ bentonite grout upon completion of drilling.	
35													5. OVA readings: No OVA readings observed during drilling.	
40														

Canonie Environmental

Soil Boring Log

PROJECT No. 86-018-1804
BORING No. BD13-12
LOGGED BY RMD

PROJECT NAME: NAS Alameda - Phase 2A Site Investigations
BORING LOCATION: Center of Yard D13 SURFACE ELEV. 115.6 feet
DRILLER: Spectrum Exploration - Garry Buss DATE: START 7/9/90 FINISH 7/9/90

DEPTH	SAMPLE No.	TYPE	INTERVAL FROM	INTERVAL TO	BLOW COUNT 0" to 6"	BLOW COUNT 6" to 12"	BLOW COUNT 12" to 18"	REC (in)	USCS SOIL TYPE	WC (%)	qu (TSF)	LAYER DEPTH	SOIL DESCRIPTION AND REMARKS	PIEZO
													Asphalt. (Fill)	
	1	CS	1.0	2.5	15	29	31	15	SM			1.3	Dense, light brown, silty fine sand, moist. (Fill)	
	2	CS	2.5	4.0	15	20	21	16	SM				becomes loose at 4.5 feet.	
5	3	CS	4.0	5.5	9	7	2	13	SM					
	4	CS	5.5	7.0	5	2	1	12	SC			6.5	Soft, gray clayey sand, saturated.	
	5	CS	7.0	8.5	2	1	1	15	SC					
	6	CS	8.5	10.0	6	16	21	17	SC			9.0	thin layer of clay at 8.5 feet.	
10													layer of black clayey sand at 8.5 to 9.0 feet, oily discoloration.	
	7	CS	10.0	11.5	3	13	21	15	SC					
	8	CS	11.5	13.0	6	13	20	13	SC				Medium dense orange brown, clayey fine sand, saturated, with trace of silt.	
	9	CS	13.0	14.5	6	13	12	15	SC				(Merritt Sand)	
15	10	CS	14.5	16.0	6	12	19	18	SC					
												16.0	Bottom of Boring at 16.0 feet.	
20														
25														
30														
35														
40														

Notes:

1. Boring was advanced using 8-inch-diameter hollow stem augers.
2. Groundwater was encountered at 5.3 feet during drilling.
3. Sampler type:
   California Sampler (CS)
   O.D.: 2.5 inches
   I.D.: 2.0 inches
4. Boring was backfilled with cement/bentonite grout upon completion of drilling.
5. OVA readings: No OVA readings observed during drilling.

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Soil Boring Log

PROJECT No. 86-018-1804
BORING No. BD13-13
LOGGED BY BB

PROJECT NAME: NAS Alameda - Phase 2A Site Investigations
BORING LOCATION: E side of Yard D13, N of concrete pad SURFACE ELEV. 114.9 feet
DRILLER: Spectrum Exploration - Garry Buss DATE: START 7/11/90 FINISH 7/11/90

DEPTH	SAMPLE No.	TYPE	INTERVAL FROM	INTERVAL TO	BLOW COUNT 0" to 6"	BLOW COUNT 6" to 12"	BLOW COUNT 12" to 18"	REC (in)	USCS SOIL TYPE	WC (%)	qu (TSF)	LAYER DEPTH	SOIL DESCRIPTION AND REMARKS	PIEZO
													Asphalt. (Fill)	
	1	CS	2.0	3.5	10	5	5	15	SM			2.0	Loose, light brown, silty fine sand, moist. (Fill)	
5	2	CS	3.5	5.0	10	10		2	SM				concrete encountered at 4.5 and 6.0 feet.	
	3	CS	5.0	6.5	10	5		0	SM				saturated below 6.5 feet.	
	4	CS	6.5	8.0	2	1	3	12	SM			6.5	Very loose, brown, silty fine sand,	
	5	CS	8.0	9.5	6	7	25	18	SM			8.5	saturated, trace of clay.	
10													Medium dense, orange brown, silty fine	
	6	CS	9.5	11.0	12	20	25	14	SM				sand, saturated, with trace of clay, some	
	7	CS	11.0	12.5	10	15	12	18	SM				gray mottling. (Merritt Sand)	
													no clay below 12.5 feet.	
	8	CS	12.5	14.0	12	10	11	14	SM					
15	9	CS	14.0	15.5	10	12	14	18	SM					
												15.5	Bottom of Boring at 15.5 feet.	
													Notes:	
20													1. Boring was advanced using 8-inch-diameter hollow stem augers.	
													2. Groundwater was encountered at 6.5 feet during drilling.	
25													3. Sampler type: California Sampler (CS) O.D.: 2.5 inches I.D.: 2.0 inches	
30													4. Boring was backfilled with cement/ bentonite grout upon completion of drilling.	
35													5. OVA readings: No OVA readings observed during drilling.	
40														

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Soil Boring Log

PROJECT No. 86-018-1804
BORING No. BD13-14
LOGGED BY BB

PROJECT NAME: NAS Alameda - Phase 2A Site Investigations
BORING LOCATION: SW corner of Yard D13 on concrete pad SURFACE ELEV. 115.2 feet
DRILLER: Spectrum Exploration - Garry Buss DATE: START 7/9/90 FINISH 7/9/90

DEPTH	SAMPLE No.	TYPE	INTERVAL FROM	INTERVAL TO	BLOW COUNT 0" to 6"	BLOW COUNT 6" to 12"	BLOW COUNT 12" to 18"	REC (in)	USCS SOIL TYPE	WC (%)	qu (TSF)	LAYER DEPTH	SOIL DESCRIPTION AND REMARKS	PIEZO
													Concrete. (Fill)	
												1.0	Dense, dark to light brown, silty fine sand, moist. (Fill)	
	1	CS	1.5	3.0	30	32	19	15	SM					
5	2	CS	3.0	4.5	15	15	18	15	SM				concrete debris between 4.5 and 6.0 feet. becomes saturated at 6.0 feet.	
	3	CS	6.0	7.5	6	5	50	0	SM				concrete encountered 6.5 to 9.0 feet.	
10	4	CS	9.0	10.5	8	8	3	8	GP			9.0	Medium dense brown gray, silty, sandy gravel, saturated. cobbles at 10.5 feet.	
	5	CS	10.5	12.0	5	20	15	0	GP					
15	6	CS	13.5	15.0	22	22	15	18	SM			13.5	Dense, dark reddish brown, silty fine sand, saturated, trace of clay, some interbedded clayey sand. (Merritt Sand)	
	7	CS	15.0	16.5	16	25	25	18	SM			16.5	Bottom of Boring at 16.5 feet.	
20													Notes:	
													1. Boring was advanced using 8-inch-diameter hollow stem augers.	
25													2. Groundwater was encountered at 6.0 feet during drilling.	
													3. Sampler type: California Sampler (CS) O.D.: 2.5 inches I.D.: 2.0 inches	
30														
													4. Boring was backfilled with cement/ bentonite grout upon completion of drilling.	
35														
													5. OVA readings: No OVA readings observed during drilling.	
40														

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Soil Boring Log

PROJECT No. 86-018-1804
BORING No. BD13-15
LOGGED BY BB

PROJECT NAME: NAS Alameda - Phase 2A Site Investigations
BORING LOCATION: South edge of Yard D13 by gate SURFACE ELEV. 115.5 feet
DRILLER: Spectrum Exploration - Garry Buss DATE: START 7/10/90 FINISH 7/10/90

DEPTH	SAMPLE No.	SAMPLE TYPE	SAMPLE INTERVAL FROM	SAMPLE INTERVAL TO	BLOW COUNT 0" to 6"	BLOW COUNT 6" to 12"	BLOW COUNT 12" to 18"	REC (in)	USCS SOIL TYPE	WC (%)	qu (TSF)	LAYER DEPTH	SOIL DESCRIPTION AND REMARKS	PIEZO
													Asphalt. (Fill)	
	1	CS	1.5	3.0	38	23	14	13	SM			1.5	Medium dense light brown, silty fine sand,	
	2	CS	3.0	4.5	10	6	3	13	SM				moist. (Fill)	
													becomes loose at 3.0 feet.	
5	3	CS	4.5	5.0	6			2	SM			4.5	Concrete debris and silty sand from 4.5 to	
													10. 5 feet. (Fill)	
													becomes saturated at 7.0 feet.	
	5	CS	7.5	9.0	4	2	2	6					color change to black between 10.5	
													and 11.0 feet.	
10														
	7	CS	10.5	12.0	10	12	20	17	SM			11.0	Dense, brown, silty fine to medium sand,	
	8	CS	12.0	13.5	20	20	25	15	SM			12.5	saturated, abundant shells.	
													some black discoloration at top of unit.	
	9	CS	13.5	15.0	13	21	21	18	SM				Dense, orange brown, silty fine sand,	
15												15.0	saturated, trace of clay. (Merritt Sand)	
													Bottom of Boring at 15.0 feet.	
													Notes:	
20														
													1. Boring was advanced using 8-inch-diameter hollow stem augers.	
													2. Groundwater was encountered at 7.0 feet during drilling.	
25														
													3. Sampler type: California Sampler (CS) O.D.: 2.5 inches I.D.: 2.0 inches	
30														
													4. Boring was backfilled with cement/ bentonite grout upon completion of drilling.	
35													5. OVA readings: No OVA readings observed during drilling.	
40														

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Soil Boring Log

PROJECT No. 86-018-1804
BORING No. BD13-16
LOGGED BY RMD

PROJECT NAME: NAS Alameda - Phase 2A Site Investigations
BORING LOCATION: Southeast corner of Yard D13 SURFACE ELEV. 115.0 feet
DRILLER: Spectrum Exploration - Garry Buss DATE: START 7/10/90 FINISH 7/10/90

DEPTH	SAMPLE No.	TYPE	INTERVAL FROM	INTERVAL TO	BLOW COUNT 0" to 6"	6" to 12"	12" to 18"	REC (in)	USCS SOIL TYPE	WC (%)	qu (TSF)	LAYER DEPTH	SOIL DESCRIPTION AND REMARKS	PIEZO
													Concrete	
	1	CS	1.0	2.5	13	21	30	14	SM			1.0	Medium dense to dense, dark to light brown, silty fine sand, moist. (Fill)	
	2	CS	2.5	4.0	9	14	9	15	SM					
5	3	CS	4.0	5.5	3	6	4	14	SM-SC			4.5	Medium dense mottled gray brown, clayey sand, moist, with pockets of clay.	
	4	CS	5.5	7.0	3	2	1	13	SC					
	5	CS	7.0	8.5	1	1	5	8	SC				some wood and organic debris encountered below 8 feet.	
	6	CS	8.5	10.0	9	11	4	15	SC				thin pocket of dark gray, gravelly silty	
10	7	CS	10.0	11.5	8	15	14	16	SC			11.0	sand, with shells at 9.5 feet.	
	8	CS	11.5	13.0	6	13	11	15	SC				wood encountered below 8 feet.	
	9	CS	13.0	14.5	2	3	10	18	SC				Medium dense, orange brown, clayey sand, saturated, some silt.	
15												14.5	(Merritt Sand)	
													Bottom of Boring at 14.5 feet.	
													Notes:	
20													1. Boring was advanced using 8-inch-diameter hollow stem augers.	
													2. Groundwater was encountered at 6.0 feet during drilling.	
25													3. Sampler type: California Sampler (CS) O.D.: 2.5 inches I.D.: 2.0 inches	
30													4. Boring was backfilled with cement/ bentonite grout upon completion of drilling.	
35													5. OVA readings: a) 50 ppm at 8.0 feet. b) 10-30 ppm at 9.5 feet. c) 10 ppm at 11.0 feet.	
40														

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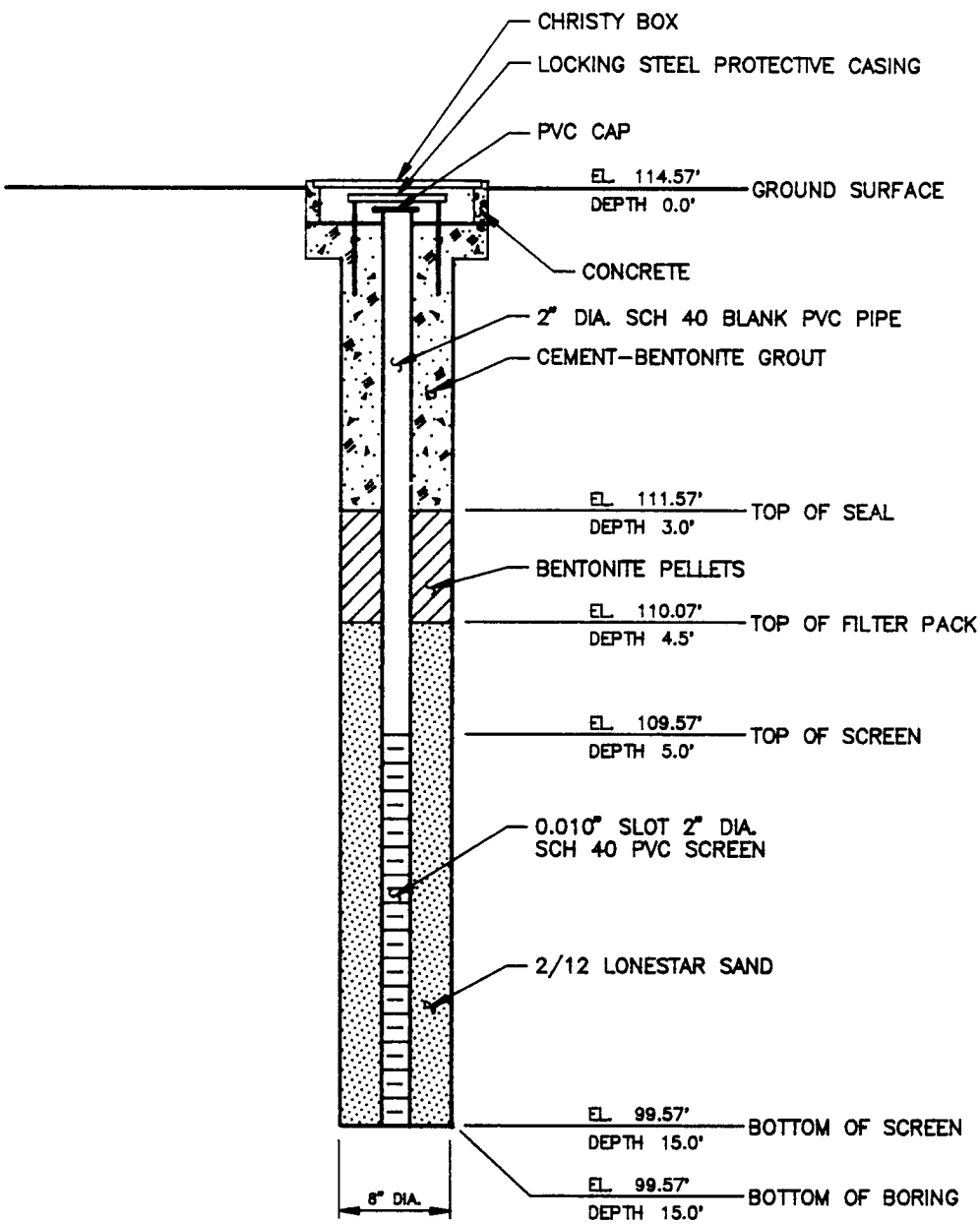
Monitoring Well Detail

PROJECT No. 86-018-1804

WELL No. MWD13-1

PROJECT NAME NAS ALAMEDA-PHASE 2A SITE INVESTIGATION

WELL LOCATION YARD D13 BY NORTH GATE DATE 7-11-90 BY BB



NOTES:

1. NOT DRAWN TO SCALE.
2. SEE BORING LOG FOR DETAILED SOIL DESCRIPTION.

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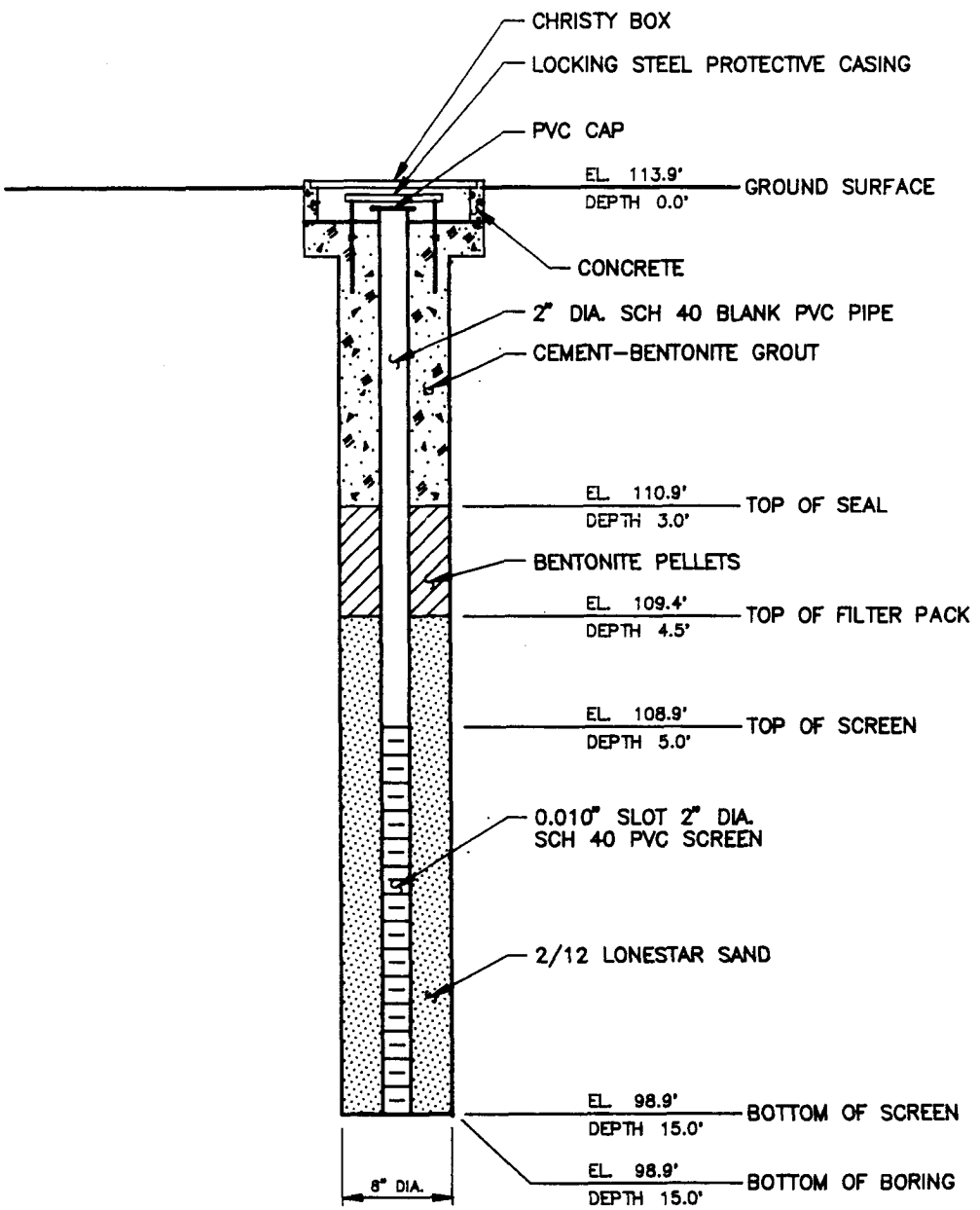
Monitoring Well Detail

PROJECT No. 86-018-1804

WELL No. MWD13-2

PROJECT NAME NAS ALAMEDA-PHASE 2A SITE INVESTIGATION

WELL LOCATION YARD D13, WEST OF BUILDING 616 DATE 7-6-90 BY TGB



NOTES:

1. NOT DRAWN TO SCALE.
2. SEE BORING LOG FOR DETAILED SOIL DESCRIPTION.

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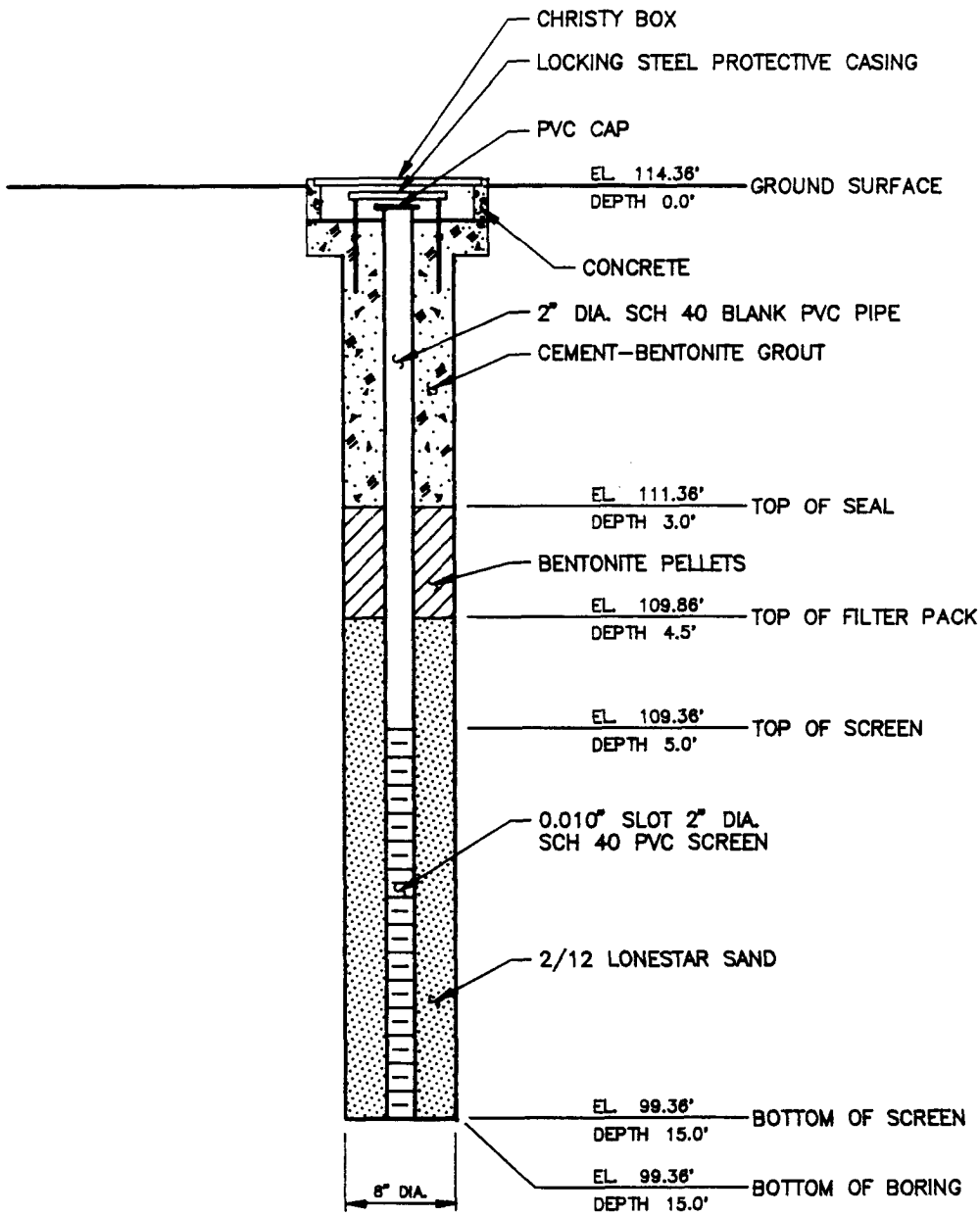
Monitoring Well Detail

PROJECT No. 86-018-1804

WELL No. MWD13-3

PROJECT NAME NAS ALAMEDA-PHASE 2A SITE INVESTIGATION

WELL LOCATION YARD D13, SOUTHWEST CORNER DATE 7-6-90 BY TGB



NOTES:

1. NOT DRAWN TO SCALE.
2. SEE BORING LOG FOR DETAILED SOIL DESCRIPTION.

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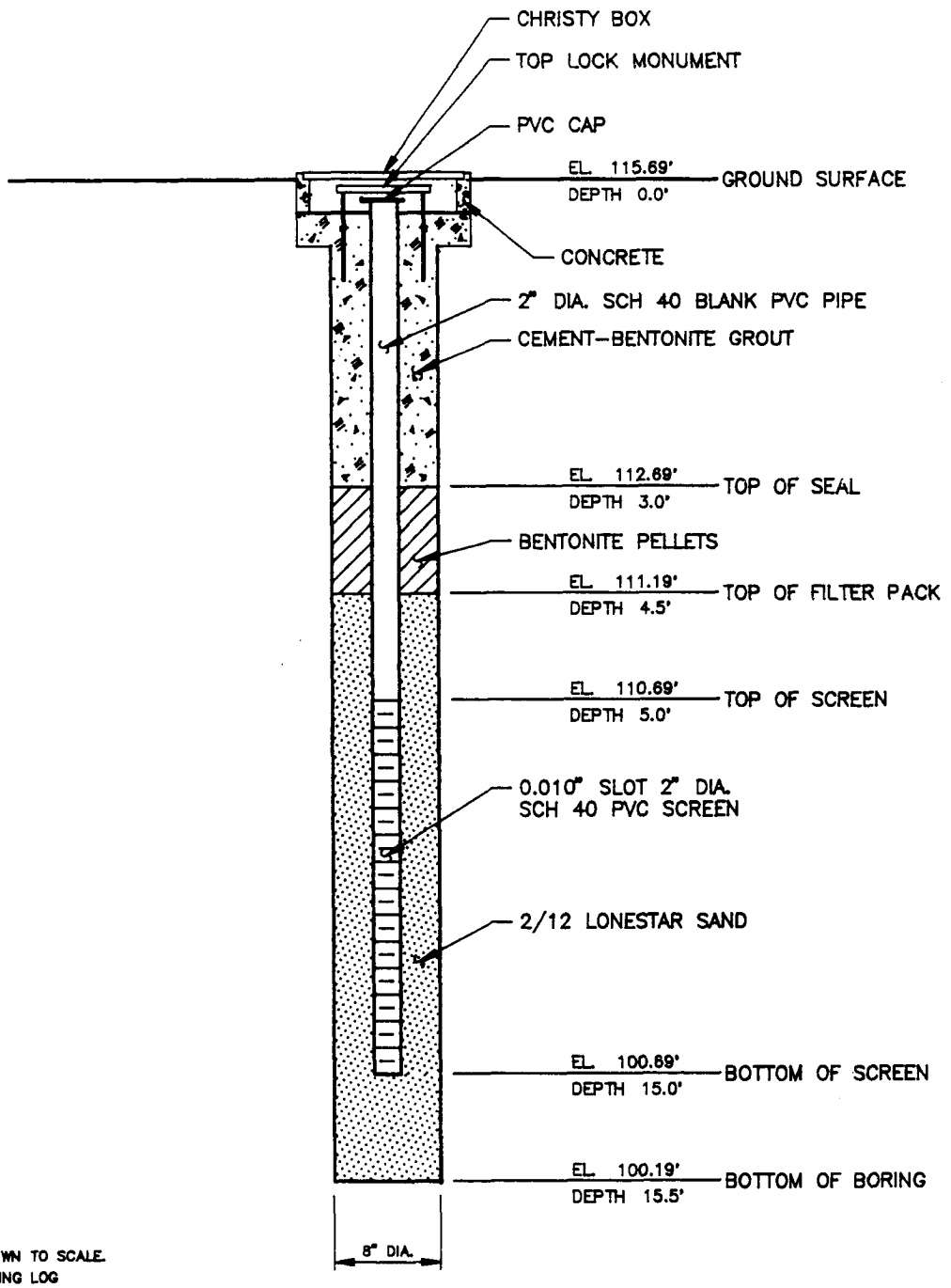
Monitoring Well Detail

PROJECT No. 86-018-1804

WELL No. MWD13-4

PROJECT NAME NAS ALAMEDA-PHASE 2A SITE INVESTIGATION

WELL LOCATION YARD D13 BY SOUTH GATE DATE 7-9-90 BY RMD



NOTES:

1. NOT DRAWN TO SCALE.
2. SEE BORING LOG FOR DETAILED SOIL DESCRIPTION.

APPENDIX D

BUILDING 410
BORING LOGS AND MONITORING WELL
CONSTRUCTION DETAILS

Soil Boring Log

PROJECT No. 86-018-1804
BORING No. MW410-1
LOGGED BY BB

PROJECT NAME: NAS Alameda - Phase 2A Site Investigations
BORING LOCATION: North side of Building 410 SURFACE ELEV. 114.75 feet
DRILLER: Spectrum Exploration - Garry Buss DATE: START 7/11/90 FINISH 7/11/90

DEPTH	SAMPLE No.	SAMPLE TYPE	INTERVAL FROM	INTERVAL TO	BLOW COUNT 0" to 6"	BLOW COUNT 6" to 12"	BLOW COUNT 12" to 18"	REC (in)	USCS SOIL TYPE	WC (%)	qu (TSF)	LAYER DEPTH	SOIL DESCRIPTION AND REMARKS	PIEZO
	1	CS	0.0	1.5	8	10	9	14	SM			0.3	Asphalt. (Fill)	
													Medium dense, light brown, silty fine	
	2	CS	1.5	3.0	5	5	6	17	SM				sand, moist.	
	3	CS	3.0	4.5	4	4	3	15	SM				becomes loose at 3.0 feet.	
5														
	4	CS	4.5	6.0	2	3	2	14	SM					X
	5	CS	6.0	7.5	2	2	2	14	SM				saturated below 6.0 feet.	X
													color change to gray at 6.5 feet.	X
	6	CS	7.5	9.0	2	1	3	14	SM					X
10	7	CS	9.0	10.5	3	3	2	12	SM					X
														X
	8	CS	10.5	12.0	1	1	3	12	CL			11.0	Soft, dark gray, silty clay, some fine	X
	9	CS	12.0	13.5	3	5	6	12	CL				sand, saturated. (Bay Mud)	X
													tiny round shell fragments at 12.5 feet.	X
15	10	CS	13.5	15.0	4	6	4	12	SM			13.5	Loose, dark gray, silty fine sand,	X
												15.0	saturated, trace of clay.	
													Bottom of Boring at 15.0 feet.	
													Notes:	
20														
													1. Boring was advanced using 8-inch-diameter hollow stem augers.	
													2. Groundwater was encountered at 6.0 feet during drilling.	
25														
													3. Sampler type:	
													California Sampler (CS)	
													O.D.: 2.5 inches	
30													I.D.: 2.0 inches	
													4. Boring was converted to a monitoring well upon completion of drilling.	
35													5. OVA readings:	
													a) 10 ppm at 12.5 feet.	
40														

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Soil Boring Log

PROJECT No. 86-018-1804
BORING No. MW410-2
LOGGED BY RMD

PROJECT NAME: NAS Alameda - Phase 2A Site Investigations
BORING LOCATION: West side of Building 410 SURFACE ELEV. 115.47 feet
DRILLER: Spectrum Exploration - Garry Buss DATE: START 7/16/90 FINISH 7/16/90

DEPTH	SAMPLE No.	SAMPLE TYPE	INTERVAL FROM	INTERVAL TO	BLOW COUNT 0" to 6"	BLOW COUNT 6" to 12"	BLOW COUNT 12" to 18"	REC (in)	USCS SOIL TYPE	WC (%)	qu (TSF)	LAYER DEPTH	SOIL DESCRIPTION AND REMARKS	PIEZO
													Asphalt concrete (Fill)	
	1	CS	1.0	2.5	6	4	10	16	SM			1.0	Medium dense, light brown, silty fine sand, moist, with scattered shell fragments.	
	2	CS	2.5	4.0	5	5	6	14	SM					
5	3	CS	4.0	5.5	8	12	21	12	SM				becomes dense at 5.0 feet.	
	4	CS	5.5	7.0	15	20	15	15	SM				saturated below 7.0 feet.	X
													becomes medium dense at 7.0 feet.	X
	5	CS	7.0	8.5	5	10	6	16	SM					X
	6	CS	8.5	10.0	8	7	7	15	SM			8.5	Loose, brown gray, silty fine sand,	X
10													saturated, some small shells.	X
	7	CS	10.0	11.5	4	4	6	15	SM					X
	8	CS	11.5	13.0	2	4	9	14	SM					X
														X
	9	CS	13.0	14.5	3	4	5	15	SM					X
15	10	CS	14.5	16.0	5	6	7	15	SC			14.5	Medium dense, dark gray, silty clayey	X
												16.0	sand, saturated.	
													Bottom of Boring at 16.0 feet.	
													Notes:	
20														
													1. Boring was advanced using 8-inch-diameter hollow stem augers.	
													2. Groundwater was encountered at 7.0 feet during drilling.	
25														
													3. Sampler type: California Sampler (CS) O.D.: 2.5 inches I.D.: 2.0 inches	
30														
													4. Boring was converted to a monitoring well upon completion of drilling.	
													5. OVA readings: No OVA readings were found during drilling.	
35														
40														

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Soil Boring Log

PROJECT No. 86-018-1804
BORING No. MW410-3
LOGGED BY RMD

PROJECT NAME: NAS Alameda - Phase 2A Site Investigations
BORING LOCATION: South side of Building 410 SURFACE ELEV. 113.98 feet
DRILLER: Spectrum Exploration - Garry Buss DATE: START 7/12/90 FINISH 7/12/90

DEPTH	SAMPLE No.	TYPE	INTERVAL FROM	INTERVAL TO	BLOW COUNT 0" to 6"	BLOW COUNT 6" to 12"	BLOW COUNT 12" to 18"	REC (in)	USCS SOIL TYPE	WC (%)	qu (TSF)	LAYER DEPTH	SOIL DESCRIPTION AND REMARKS	PIEZO
													Asphalt. (Fill)	
	1	CS	0.5	2.0	22	20	22	14	SM			0.5	Dense, light brown, silty fine sand, moist.	
	2	CS	2.0	3.5	11	18	19	11	SM					
5	3	CS	3.5	5.0	10	18	19	15	SM			4.0	Dense, gray, silty fine sand, moist, with shell fragments.	
	4	CS	5.0	6.5	15	14	17	13	SM				saturated below 5.5 feet.	X
	5	CS	6.5	8.0	10	14	12	16	SM				becomes medium dense at 6.5 feet.	X
	6	CS	8.0	9.5	4	6	8	16	SM				lost shell fragments at 8.0 feet.	X
10														X
	7	CS	9.5	11.0	5	5	4	15	SM				becomes loose at 9.5 feet.	X
	8	CS	11.0	12.5	1	5	10	15	SM					X
	9	CS	12.5	14.0	1	4	3	16	SM			13.8	Loose, dark gray, silty medium sand, saturated, with small white shells and	X
15	10	CS	14.0	15.5	5	5	7	17	SM			15.5	pockets of clay.	X
													Bottom of Boring at 15.5 feet.	
20													Notes:	
													1. Boring was advanced using 8-inch-diameter hollow stem augers.	
													2. Groundwater was encountered at 5.5 feet during drilling.	
25													3. Sampler type: California Sampler (CS) O.D.: 2.5 inches I.D.: 2.0 inches	
30													4. Boring was converted to a monitoring well upon completion of drilling.	
35													5. OVA readings: No OVA readings were found during drilling.	
40														

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Soil Boring Log

PROJECT No. 86-018-1804
BORING No. MW410-4
LOGGED BY RMD

PROJECT NAME: NAS Alameda - Phase 2A Site Investigations
BORING LOCATION: East of Building 410 in fenced area SURFACE ELEV. 114.64 feet
DRILLER: Spectrum Exploration - Garry Buss DATE: START 7/12/90 FINISH 7/12/90

DEPTH	SAMPLE No.	TYPE	INTERVAL FROM	INTERVAL TO	BLOW COUNT 0" to 6"	BLOW COUNT 6" to 12"	BLOW COUNT 12" to 18"	REC (in)	USCS SOIL TYPE	WC (%)	qu (TSF)	LAYER DEPTH	SOIL DESCRIPTION AND REMARKS	PIEZO
													Asphalt. (Fill)	
	1	CS	0.5	2.0	40	45	25	14	SM			0.5	Very dense, brown, gravelly silty sand,	
	2	CS	2.0	3.5	20	16	14	13	SM			1.5	moist. (Fill)	
													Dense, light brown, silty fine sand, moist,	
5	3	CS	3.5	5.0	7	6	10	15	SM				with shell fragments.	
	4	CS	5.0	6.5	6	6	7	14	SM				becomes medium dense at 3.5 feet.	X
														X
	5	CS	6.5	8.0	6	7	6	15	SM				saturated below 6.5 feet.	X
	6	CS	8.0	9.5	6	6	5	15	SM					X
10														X
	7	CS	9.5	11.0	5	6	8	15	SM				color change to gray at 11.0 feet.	X
	8	CS	11.0	12.5	8	3	4	15	SM				becomes loose at 11.0 feet.	X
														X
	9	CS	12.5	14.0	3	2	3	15	SC			12.8	Loose, dark gray, clayey sand,	X
15	10	CS	14.0	15.5	2	1	3	14	SC				saturated, with pockets of silty clay.	X
												15.5	Bottom of Boring at 15.5 feet.	
													Notes:	
20														
													1. Boring was advanced using 8-inch-diameter hollow stem augers.	
													2. Groundwater was encountered at 6.5 feet during drilling.	
25														
													3. Sampler type: California Sampler (CS) O.D.: 2.5 inches I.D.: 2.0 inches	
30														
													4. Boring was converted to a monitoring well upon completion of drilling.	
													5. OVA readings: a) 2-5 ppm at 12.5 feet. b) 5-10 ppm at 14.0 feet.	
35														
40														

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Soil Boring Log

PROJECT No. 86-018-1804
BORING No. B410-5
LOGGED BY BB

PROJECT NAME: NAS Alameda - Phase 2A Site Investigations
BORING LOCATION: Northwest corner of Building 410 SURFACE ELEV. 114.9 feet
DRILLER: Spectrum Exploration - Garry Buss DATE: START 7/11/90 FINISH 7/11/90

DEPTH	SAMPLE No.	TYPE	INTERVAL FROM	INTERVAL TO	BLOW COUNT 0" to 6"	BLOW COUNT 6" to 12"	BLOW COUNT 12" to 18"	REC (in)	USCS SOIL TYPE	WC (%)	qu (TSF)	LAYER DEPTH	SOIL DESCRIPTION AND REMARKS	PIEZO
	1	CS	0.0	1.5	25	25	20	14	SM			0.3	Asphalt. (Fill)	
													Dense, light brown, silty fine sand, moist.	
	2	CS	1.5	3.0	16	19	20	15	SM					
	3	CS	3.0	4.5	10	11	13	15	SM				becomes medium dense at 3.0 feet.	
5														
	4	CS	4.5	6.0	10	11	6	15	SM					
	5	CS	6.0	7.5	7	7	5	13	SM				saturated below 6.0 feet.	
	6	CS	7.5	9.0	5	8	9	12	SM				becomes loose at 9.0 feet.	
10	7	CS	9.0	10.5	3	1	4	14	SM				color change to brown gray and increase in clay content at 9.0 feet.	
	8	CS	10.5	12.0	3	5	7	18	CL			10.5	Medium stiff, black to dark gray,	
	9	CS	12.0	13.5	3	5	8	6	SC			13.0	silty clay, saturated.	
													Loose, dark gray, clayey fine sand,	
15	10	CS	13.5	15.0	3	5	10	12	SC				saturated, some silt.	
												15.0	Bottom of Boring at 15.0 feet.	
													Notes:	
20													1. Boring was advanced using 8-inch-diameter hollow stem augers.	
													2. Groundwater was encountered at 6.0 feet during drilling.	
25													3. Sampler type: California Sampler (CS) O.D.: 2.5 inches I.D.: 2.0 inches	
30													4. Boring was backfilled with cement/ bentonite grout upon completion of drilling.	
35													5. OVA readings: No OVA readings observed during drilling.	
40														

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Soil Boring Log

PROJECT No. 86-018-1804
BORING No. B410-6
LOGGED BY BB

PROJECT NAME: NAS Alameda - Phase 2A Site Investigations
BORING LOCATION: Northeast of Building 410 SURFACE ELEV. 114.6 feet
DRILLER: Spectrum Exploration - Garry Buss DATE: START 7/11/90 FINISH 7/11/90

DEPTH	SAMPLE No.	TYPE	INTERVAL FROM	INTERVAL TO	BLOW COUNT 0" to 6"	BLOW COUNT 6" to 12"	BLOW COUNT 12" to 18"	REC (in)	USCS SOIL TYPE	WC (%)	qu (TSF)	LAYER DEPTH	SOIL DESCRIPTION AND REMARKS	PIEZO
	1	CS	0.0	1.5	15	25	18	14	SM			0.3	Asphalt. (Fill)	
													Dense, light brown, silty fine sand, moist.	
	2	CS	1.5	3.0	15	20	13	14	SM					
	3	CS	3.0	4.5	10	10	14	15	SM					
5													becomes medium dense at 3.0 feet.	
	4	CS	4.5	6.0	8	9	11	15	SM					
	5	CS	6.0	7.5	7	9	7	15	SM				saturated below 6.0 feet.	
	6	CS	7.5	9.0	5	4	6	13	SM				becomes loose at 8.0 feet.	
10	7	CS	9.0	10.5	3	2	3	12	SM					
	8	CS	10.5	12.0	2	3	2	15	SM					
	9	CS	12.0	13.5	1	2	4	13	CL			12.0	Soft, black, silty clay, saturated. (Bay Mud)	
												13.5	Dense, light brown, silty fine sand,	
15	10	CS	13.5	15.0	6	16	15	6	SM				saturated.	
												15.0	Bottom of Boring at 15.0 feet.	
													Notes:	
20														
													1. Boring was advanced using 8-inch-diameter hollow stem augers.	
													2. Groundwater was encountered at 6.0 feet during drilling.	
25														
													3. Sampler type: California Sampler (CS) O.D.: 2.5 inches I.D.: 2.0 inches	
30														
													4. Boring was backfilled with cement/ bentonite grout upon completion of drilling.	
35													5. OVA readings: No OVA readings observed during drilling.	
40														

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Soil Boring Log

PROJECT No. 86-018-1804
BORING No. B410-7
LOGGED BY RMD

PROJECT NAME: NAS Alameda - Phase 2A Site Investigations
BORING LOCATION: East of northeast corner of Building 410 SURFACE ELEV. 114.9 feet
DRILLER: Spectrum Exploration - Garry Buss DATE: START 7/12/90 FINISH 7/12/90

DEPTH	SAMPLE No.	SAMPLE TYPE	SAMPLE INTERVAL FROM	SAMPLE INTERVAL TO	BLOW COUNT 0" to 6"	BLOW COUNT 6" to 12"	BLOW COUNT 12" to 18"	REC (in)	USCS SOIL TYPE	WC (%)	qu (TSF)	LAYER DEPTH	SOIL DESCRIPTION AND REMARKS	PIEZO
													Asphalt. (Fill)	
	1	CS	0.5	2.0	41	15	20	12	SM			0.5	Dense, light brown, silty fine sand, moist,	
	2	CS	2.0	3.5	10	10	10	14	SM				some gravel. (Fill)	
													becomes medium dense at 2.0 feet.	
5	3	CS	3.5	5.0	3	6	6	12	CL			4.3	Medium stiff, brown gray, sandy clay,	
	4	CS	5.0	6.5	5	6	7	12	CL				moist, with pockets of silty sand.	
													saturated below 7.0 feet.	
	5	CS	6.5	8.0	4	7	5	12	CL				becomes loose at 8.0 feet.	
	6	CS	8.0	9.5	1	2	3	15	CL			9.0	Stiff, mottled brown dark gray, silty clay,	
10													saturated, moderate odor.	
	7	CS	9.5	11.0	1	1	4	18	CL				black oily discoloration at 9.5 feet.	
	8	CS	11.0	12.5	2	3	4	14	CL				lenses of clayey sand below 11.0 feet.	
	9	CS	12.5	14.0	4	3	4	18	SC			13.8	Medium dense, dark gray, clayey sand,	
15	10	CS	14.0	15.5	5	9	13	18	SC				saturated, with tiny round shells.	
												15.0	Bottom of Boring at 15.5 feet.	
													Notes:	
20													1. Boring was advanced using 8-inch-diameter hollow stem augers.	
													2. Groundwater was encountered at 7.0 feet during drilling.	
25														
													3. Sampler type: California Sampler (CS) O.D.: 2.5 inches I.D.: 2.0 inches	
30														
													4. Boring was backfilled with cement/ bentonite grout upon completion of drilling.	
35													5. OVA readings: No OVA readings observed during driling.	
40														

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Soil Boring Log

PROJECT No. 86-018-1804
BORING No. B410-8
LOGGED BY BB

PROJECT NAME: NAS Alameda - Phase 2A Site Investigations
BORING LOCATION: East side of Building 410 SURFACE ELEV. 115.1 feet
DRILLER: Spectrum Exploration - Garry Buss DATE: START 7/11/90 FINISH 7/11/90

DEPTH	SAMPLE No.	TYPE	INTERVAL FROM	INTERVAL TO	BLOW COUNT 0" to 6"	BLOW COUNT 6" to 12"	BLOW COUNT 12" to 18"	REC (in)	USCS SOIL TYPE	WC (%)	qu (TSF)	LAYER DEPTH	SOIL DESCRIPTION AND REMARKS	PIEZO
													Concrete. (Fill)	
	1	CS	0.5	2.0	10	15	25	16	SM			0.5	Dense, dark brown, silty fine sand, moist.	
	2	CS	2.0	3.5	20	25	15	16	SM				trace of shell fragments at 2.5 feet.	
5	3	CS	3.5	5.0	8	5	5	15	SM				becomes medium dense at 3.5 feet.	
	4	CS	5.0	6.5	4	8	10	17	SM				thin lens of clay at 6.5 feet.	
	5	CS	6.5	8.0	25	15	16	17	SM				saturated below 7.0 feet.	
	6	CS	8.0	9.5	50			12	SM				color change to gray at 8.5 feet.	
10												9.5	Bottom of Boring at 9.5 feet.	
													(encountered an obstruction at 9.5 feet which kicked the auger sideways. relocated 10 feet east and encountered a similar obstruction at 5.0 feet. relocated in alignment with B410-7 and B410-9; an obstruction was encountered at 5.0 feet.)	
15														
20													Notes:	
													1. Boring was advanced using 8-inch-diameter hollow stem augers.	
25													2. Groundwater was encountered at 7.0 feet during drilling.	
													3. Sampler type: California Sampler (CS) O.D.: 2.5 inches I.D.: 2.0 inches	
30													4. Boring was backfilled with cement/ bentonite grout upon completion of drilling. In addition, abandoned boreholes were also backfilled.	
35													5. OVA readings: a) 2 ppm at 7.0 feet.	
40														

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Soil Boring Log

PROJECT No. 86-018-1804
BORING No. B410-9
LOGGED BY RMD

PROJECT NAME: NAS Alameda - Phase 2A Site Investigations
BORING LOCATION: East of southeast corner of Building 410 SURFACE ELEV. 115.0 feet
DRILLER: Spectrum Exploration - Garry Buss DATE: START 7/12/90 FINISH 7/12/90

DEPTH	SAMPLE No.	SAMPLE TYPE	INTERVAL FROM	INTERVAL TO	BLOW COUNT 0" to 6"	BLOW COUNT 6" to 12"	BLOW COUNT 12" to 18"	REC (in)	USCS SOIL TYPE	WC (%)	qu (TSF)	LAYER DEPTH	SOIL DESCRIPTION AND REMARKS	PIEZO
													Asphalt. (Fill)	
	1	CS	0.5	2.0	30	15	10	12	SM			1.0	Dense, light brown, silty fine sand, moist.	
	2	CS	2.0	3.5	20	25	15	14	SM				trace of shell fragments below 2.5 feet.	
5	3	CS	3.5	5.0	15	14	9	16	SM				medium dense below 4.0 feet.	
	4	CS	5.0	6.5	7	5	8	18	SM				becomes saturated at 4.5 feet.	
	5	CS	6.5	8.0	2	3	3	15	SM				becomes loose at 6.5 feet.	
	6	CS	8.0	9.5	2	3	5	14	SM					
10	7	CS	9.5	11.0	2	3	4	16	SM					
	8	CS	11.0	12.5	2	1	4	13	SM				running sands below 11.0 feet.	
	9	CS	12.5	14.0	4	4	5	12	SM			12.5	Loose, gray, silty fine sand, saturated,	
15	10	CS	14.0	15.5	2	3	3	18	SM				with pockets of silty clay.	
												15.5	Bottom of Boring at 15.5 feet.	
													Notes:	
20													1. Boring was advanced using 8-inch-diameter hollow stem augers.	
													2. Groundwater was encountered at 4.5 feet during drilling.	
25													3. Sampler type: California Sampler (CS) O.D.: 2.5 inches I.D.: 2.0 inches	
													4. Boring was backfilled with cement/ bentonite grout upon completion of drilling.	
30													5. OVA readings: No OVA readings observed during drilling.	
35														
40														

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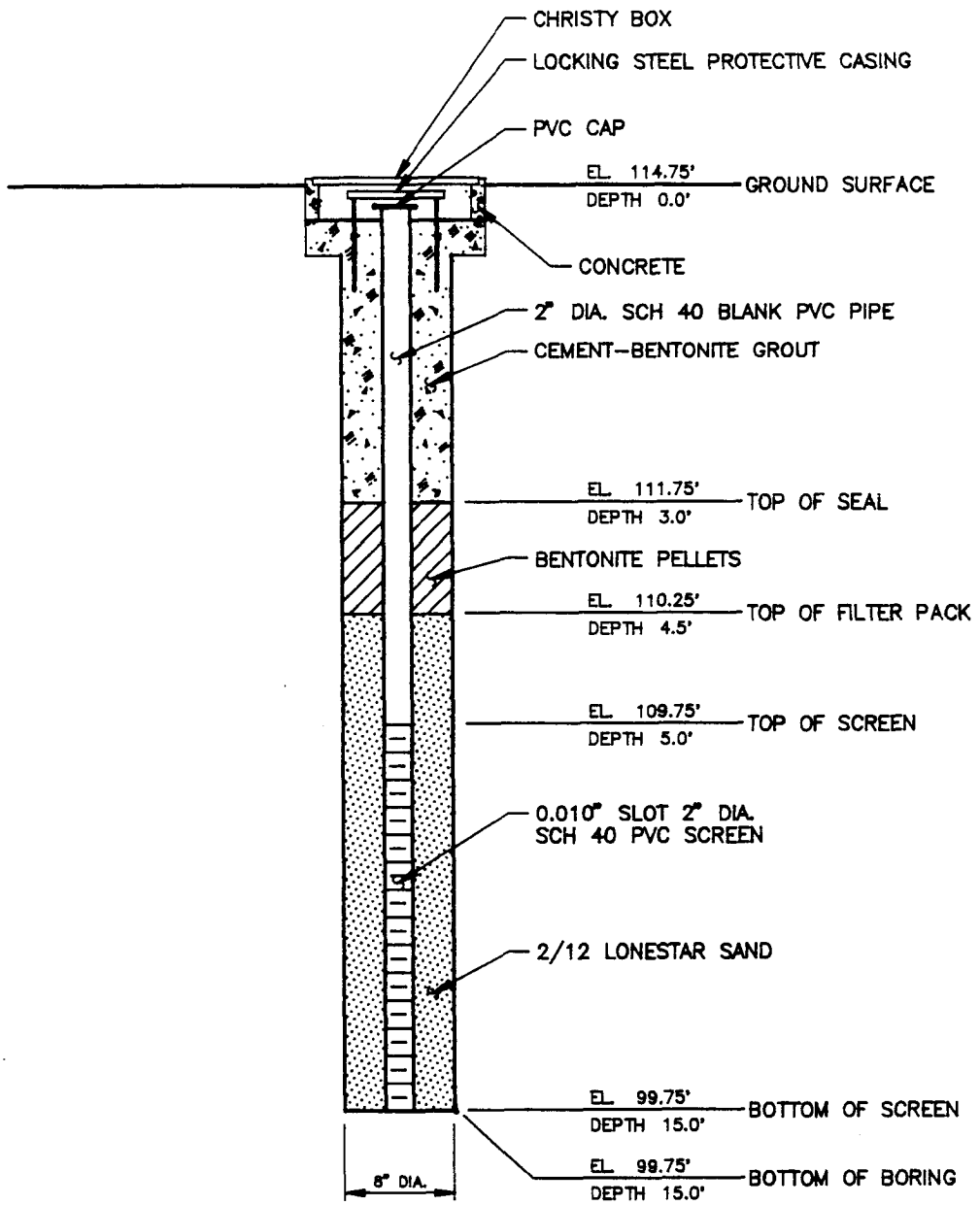
Monitoring Well Detail

PROJECT No. 86-018-1804

WELL No. MW410-1

PROJECT NAME NAS ALAMEDA-PHASE 2A SITE INVESTIGATION

WELL LOCATION BUILDING 410, NORTH SIDE DATE 7-11-90 BY BB



NOTES:

1. NOT DRAWN TO SCALE.
2. SEE BORING LOG FOR DETAILED SOIL DESCRIPTION.

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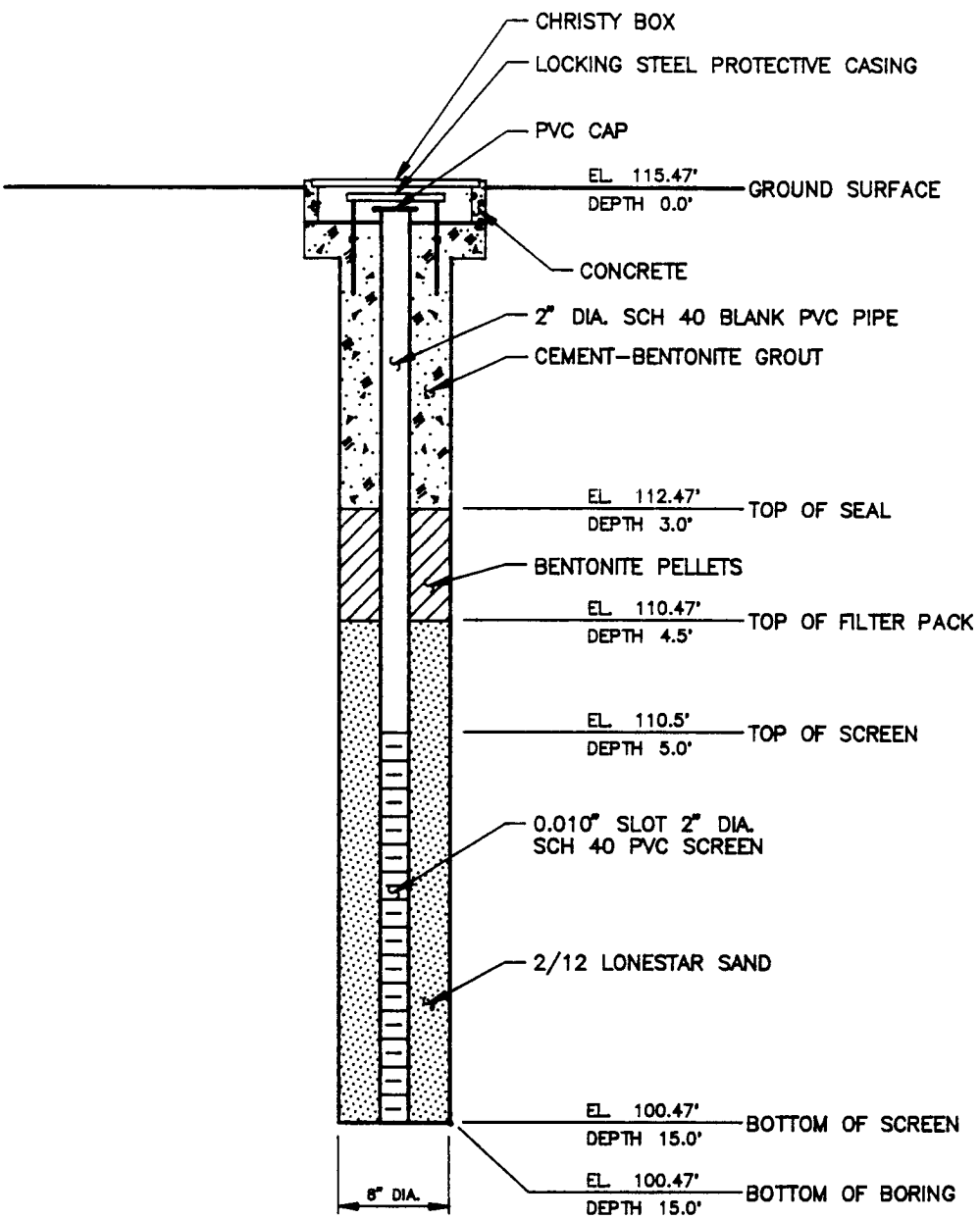
Monitoring Well Detail

PROJECT No. 86-018-1804

WELL No. MW410-2

PROJECT NAME NAS ALAMEDA-PHASE 2A SITE INVESTIGATION

WELL LOCATION BUILDING 410, WEST SIDE DATE 7-16-90 BY RMD



NOTES:

1. NOT DRAWN TO SCALE.
2. SEE BORING LOG FOR DETAILED SOIL DESCRIPTION.

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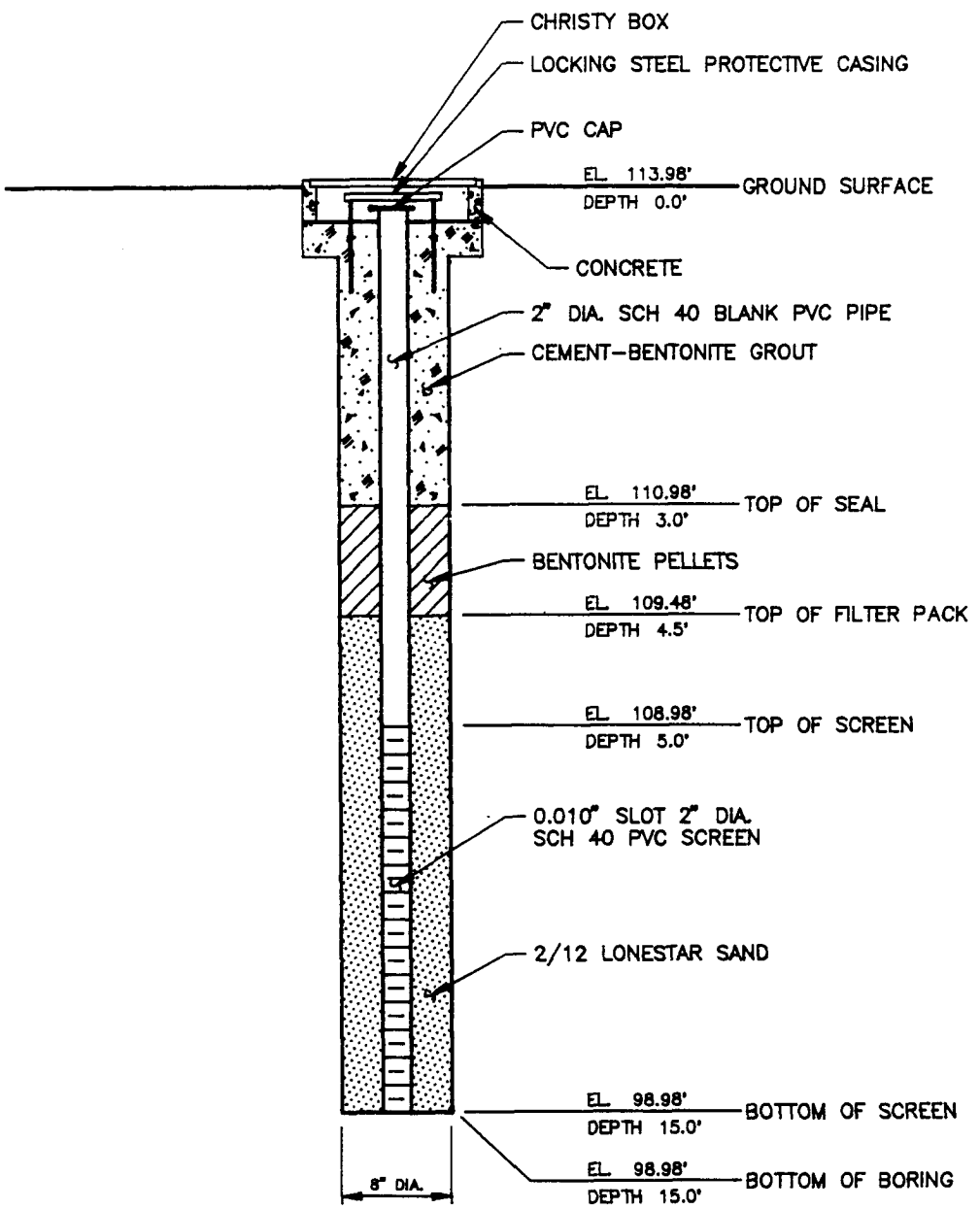
Monitoring Well Detail

PROJECT No. 86-018-1804

WELL No. MW410-3

PROJECT NAME NAS ALAMEDA-PHASE 2A SITE INVESTIGATION

WELL LOCATION BUILDING 410, SOUTH SIDE DATE 7-12-90 BY RMD



NOTES:

1. NOT DRAWN TO SCALE.
2. SEE BORING LOG FOR DETAILED SOIL DESCRIPTION.

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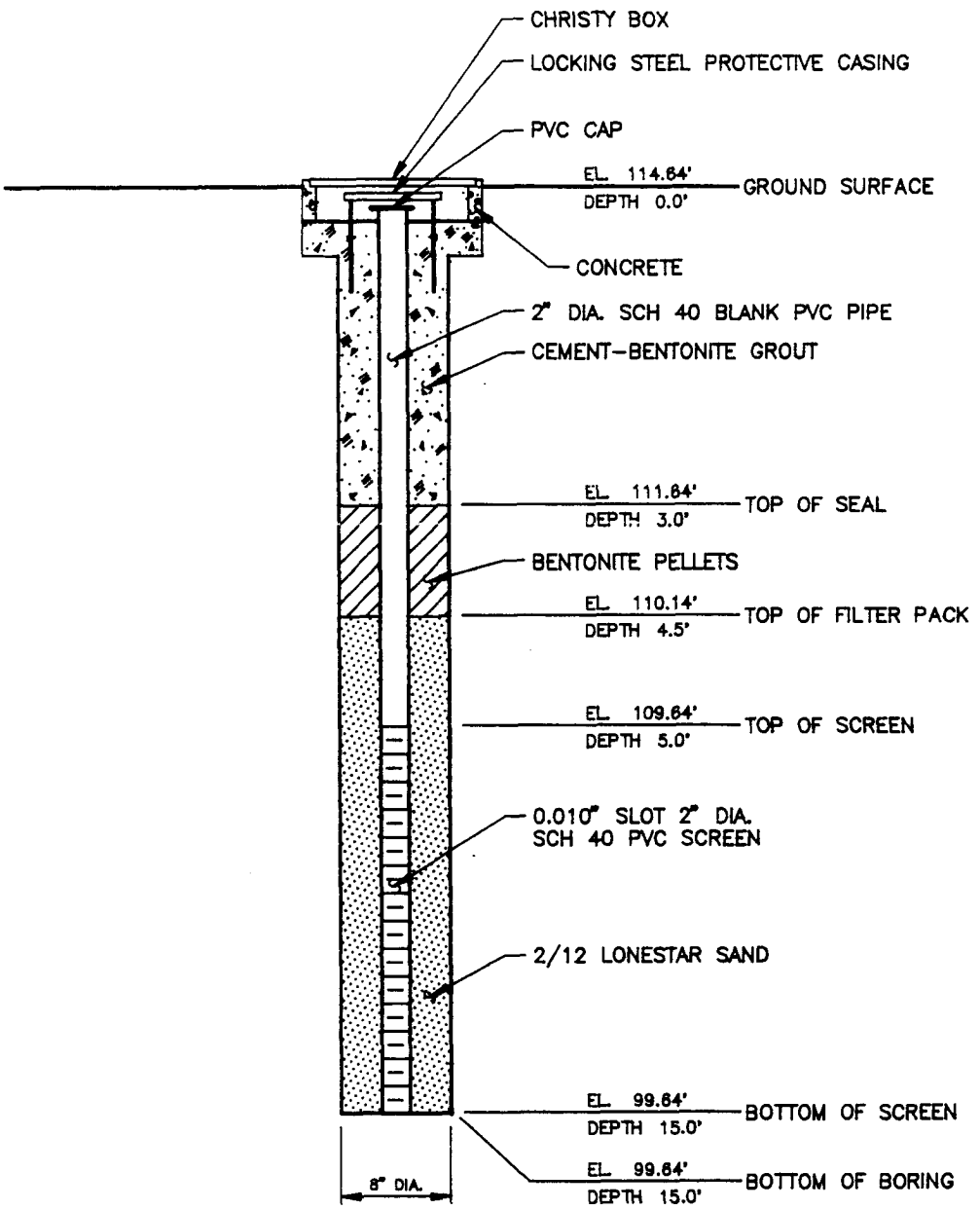
Monitoring Well Detail

PROJECT No. 86-018-1804

WELL No. MW410-4

PROJECT NAME NAS ALAMEDA-PHASE 2A SITE INVESTIGATION

WELL LOCATION EAST OF BUILDING 410 IN FENCED AREA DATE 7-12-90 BY RMD



NOTES:

1. NOT DRAWN TO SCALE.
2. SEE BORING LOG FOR DETAILED SOIL DESCRIPTION.

APPENDIX E

BUILDING 530
BORING LOGS AND MONITORING WELL
CONSTRUCTION DETAILS

Soil Boring Log

PROJECT No. 86-018-1804
BORING No. MW530-1
LOGGED BY RMD

PROJECT NAME: NAS Alameda - Phase 2A Site Investigations
BORING LOCATION: NE corner of Building 530 in fire lane SURFACE ELEV. 114.11 feet
DRILLER: Spectrum Exploration - Garry Buss DATE: START 7/13/90 FINISH 7/13/90

DEPTH	SAMPLE No.	SAMPLE TYPE	INTERVAL FROM	INTERVAL TO	BLOW COUNT 0" to 6"	BLOW COUNT 6" to 12"	BLOW COUNT 12" to 18"	REC (in)	USCS SOIL TYPE	WC (%)	qu (TSF)	LAYER DEPTH	SOIL DESCRIPTION AND REMARKS	PIEZO
													Asphalt. (Fill)	
	1	CS	0.5	2.0	16	23	15	13	SM			0.5	Dense, mottled light and dark brown, silty	
	2	CS	2.0	3.5	11	14	16	15	SM				sand, moist, trace of gravel. (Fill)	
5	3	CS	3.5	5.0	11	15	6	15	SM			4.3	Medium dense, light brown, silty fine sand,	
	4	CS	5.0	6.5	3	2	2	14	SM				moist.	X
												6.8	thin layer of gray clay at 6.25 feet.	X
	5	CS	6.5	8.0	5	6	20	17	SP				Medium dense, black to dark brown, silty	X
	6	CS	8.0	9.5	7	3	4	15	SM				gravelly sand, saturated, oily odor.	X
10												8.3	Loose, gray, silty fine sand, saturated,	X
	7	CS	9.5	11.0	4	4	5	16	SM				black streaks, oily odor.	X
	8	CS	11.0	12.5	5	7	12	16	SM				some brick debris at 8.0 feet.	X
													becomes medium dense at 11.5 feet.	X
	9	CS	12.5	14.0	7	7	5	16	SM					X
15	10	CS	14.0	15.0	20	50	-	13	SC			14.0	Very dense, light yellow brown, clayey	X
												15.0	fine sand, saturated.	
													Bottom of Boring at 15.0 feet.	
20													Notes:	
													1. Boring was advanced using 8-inch-diameter hollow stem augers.	
25													2. Groundwater was encountered at 6.5 feet during drilling.	
													3. Sampler type: California Sampler (CS) O.D.: 2.5 inches I.D.: 2.0 inches	
30													4. Boring was converted to a monitoring well upon completion of drilling.	
35													5. OVA readings: a) 200 ppm at 8.0 feet. Oily odor. b) 200-300 ppm at 11.0 feet. Oily odor. c) 20-30 ppm at 13.0 feet. d) 50 ppm at 15.0 feet.	
40														

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Soil Boring Log

PROJECT No. 86-018-1804
BORING No. MW530-2
LOGGED BY BB

PROJECT NAME: NAS Alameda - Phase 2A Site Investigations
BORING LOCATION: Southwest corner of Building 530 SURFACE ELEV. 114.47 feet
DRILLER: Spectrum Exploration - Garry Buss DATE: START 7/13/90 FINISH 7/13/90

DEPTH	SAMPLE No.	TYPE	INTERVAL FROM	INTERVAL TO	BLOW COUNT 0" 6"	BLOW COUNT 6" 12"	BLOW COUNT 12" 18"	REC (in)	USCS SOIL TYPE	WC (%)	qu (TSF)	LAYER DEPTH	SOIL DESCRIPTION AND REMARKS	PIEZO
	1	CS	0.0	1.5	10	13	15	14	SM			0.3	Asphalt. (Fill)	
													Medium dense, light brown, silty fine sand,	
	2	CS	1.5	3.0	9	11	15	14	SM				moist, some shells, trace of gravel.	
	3	CS	3.0	4.5	5	12	13	15	SM					
5													no shells below 5.0 feet.	
	4	CS	4.5	6.0	5	13	14	15	SM					X
	5	CS	6.0	7.5	14	9	10	17	SM				color change to gray at 6.0 feet.	X
													saturated below 6.0 feet.	X
	6	CS	7.5	9.0	9	8	10	15	SM					X
10	7	CS	9.0	10.5	5	4	3	13	SM					X
													becomes loose at 9.0 feet.	X
	8	CS	10.5	12.0	4	4	7	14	SM					X
	9	CS	12.0	13.5	2	2	4	16	SC			12.5		X
													Loose, gray to dark brown, clayey fine	X
15	10	CS	13.5	15.0	2	3	4	15	SC				sand, saturated, with some pockets	X
												15.0	of clay.	
													abundant gray clay and tiny shells at top	
													of unit.	
20													Bottom of Boring at 15.0 feet.	
													Notes:	
													1. Boring was advanced using 8-inch-diameter hollow stem augers.	
25														
													2. Groundwater was encountered at 6.0 feet during drilling.	
30													3. Sampler type:	
													California Sampler (CS)	
													O.D.: 2.5 inches	
													I.D.: 2.0 inches	
35													4. Boring was converted to a monitoring well upon completion of drilling.	
													5. OVA readings: No OVA readings were found during drilling.	
40														

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Soil Boring Log

PROJECT No. 86-018-1804
BORING No. MW530-3
LOGGED BY RMD

PROJECT NAME: NAS Alameda - Phase 2A Site Investigations
BORING LOCATION: Southwest of Building 530 by tanks SURFACE ELEV. 112.67 feet
DRILLER: Spectrum Exploration - Garry Buss DATE: START 7/13/90 FINISH 7/13/90

DEPTH	SAMPLE No.	TYPE	INTERVAL FROM	INTERVAL TO	BLOW COUNT 0" to 6"	BLOW COUNT 6" to 12"	BLOW COUNT 12" to 18"	REC (in)	USCS SOIL TYPE	WC (%)	qu (TSF)	LAYER DEPTH	SOIL DESCRIPTION AND REMARKS	PIEZO
	1	CS	0.0	1.5	30	20	20	14	SM				Asphalt. (Fill)	
												0.8	Dense, light brown to brown, silty fine	
	2	CS	1.5	3.0	30	17	20	14	SM				sand, moist, some shells. (Fill)	
	3	CS	3.0	4.5	7	14	20	14	SM					
5												4.5	Medium dense, gray, silty fine sand,	
	4	CS	4.5	6.0	7	13	15	16	SM				saturated.	X
	5	CS	6.0	7.5	7	10	14	16	SM				some scattered intervals of shells.	X
														X
	6	CS	7.5	9.0	10	8	7	15	SM				becomes very loose at 9.0 feet.	X
10	7	CS	9.0	10.5	2	1	1	10	SM					X
												10.5	Soft, gray, clay, saturated.	X
	8	CS	10.5	12.0	4	6	7	17	SM			11.0	Medium dense, gray, silty medium sand,	X
	9	CS	12.0	13.5	3	3	4	8	SM				saturated, with small white shells.	X
												12.0	Loose, gray, silty fine sand, saturated.	X
15	10	CS	13.5	15.0	5	5	5	0	SC				(soupy texture)	X
												15.0	Bottom of Boring at 15.0 feet.	
													Notes:	
20													1. Boring was advanced using 8-inch-diameter hollow stem augers.	
													2. Groundwater was encountered at 4.5 feet during drilling.	
25													3. Sampler type:	
													California Sampler (CS)	
													O.D.: 2.5 inches	
													I.D.: 2.0 inches	
30														
													4. Boring was converted to a monitoring well upon completion of drilling.	
													5. OVA readings:	
35													a) 5 ppm at 11.5 feet.	
													b) 20 ppm at 12.0 feet.	
40														

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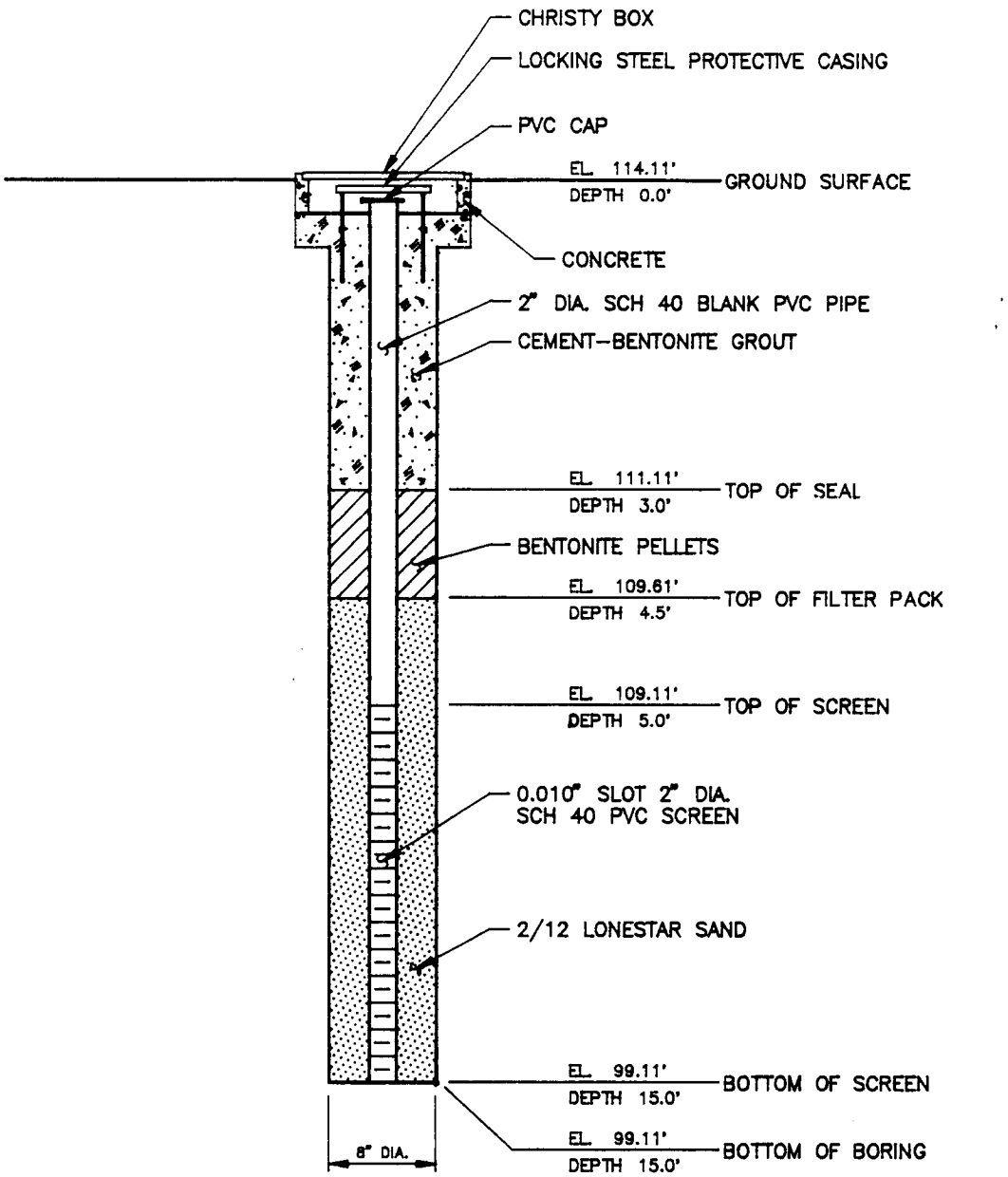
Monitoring Well Detail

PROJECT No. 86-018-1804

WELL No. MW530-1

PROJECT NAME NAS ALAMEDA-PHASE 2A SITE INVESTIGATION

WELL LOCATION BUILDING 530, NORTHEAST CORNER DATE 7-13-90 BY RMD



NOTES:

1. NOT DRAWN TO SCALE.
2. SEE BORING LOG FOR DETAILED SOIL DESCRIPTION.

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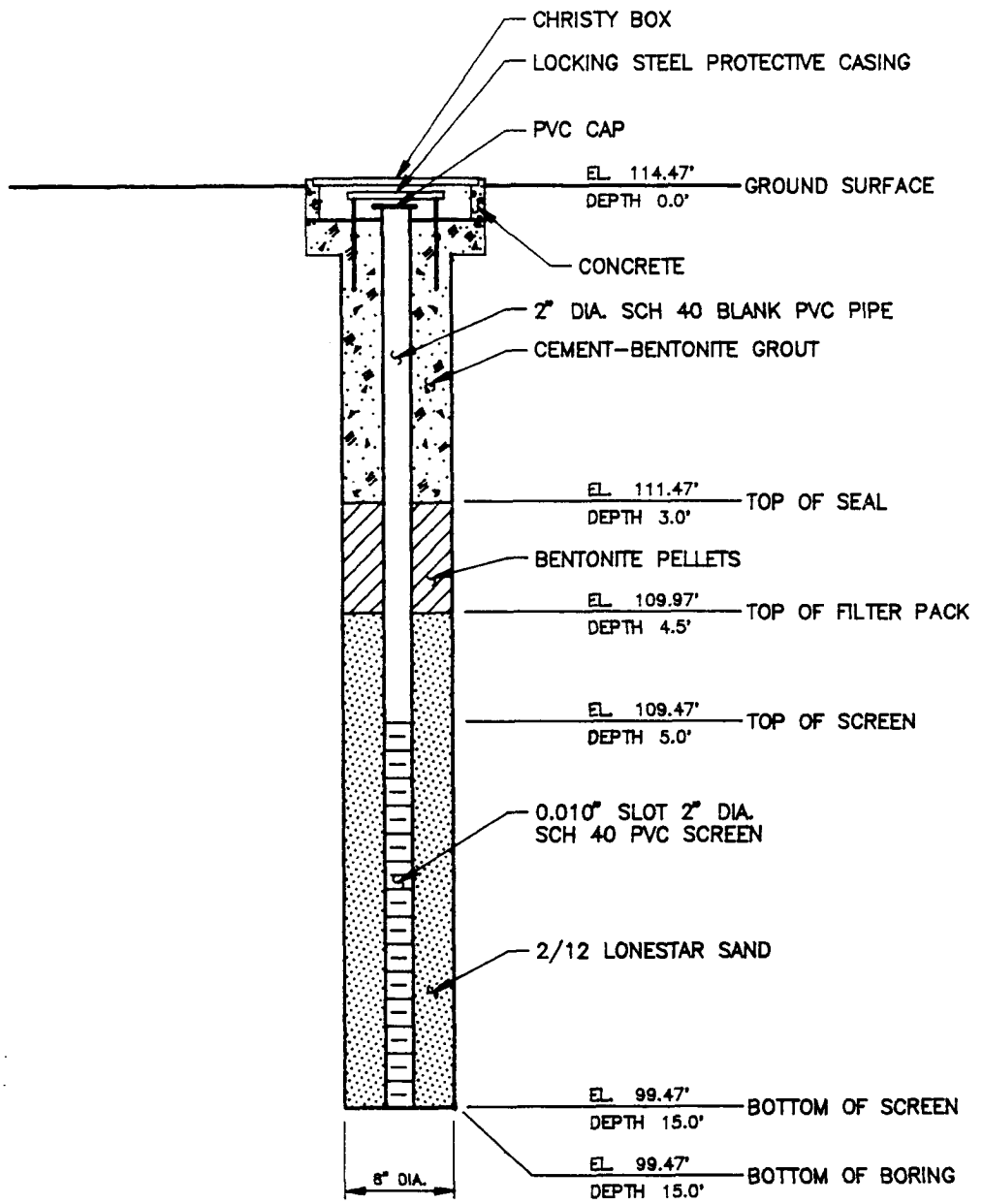
Monitoring Well Detail

PROJECT No. 86-018-1804

WELL No. MW530-2

PROJECT NAME NAS ALAMEDA-PHASE 2A SITE INVESTIGATION

WELL LOCATION BUILDING 530, WEST SIDE, BY SW CORNER DATE 7-13-90 BY BB



NOTES:

1. NOT DRAWN TO SCALE.
2. SEE BORING LOG FOR DETAILED SOIL DESCRIPTION.

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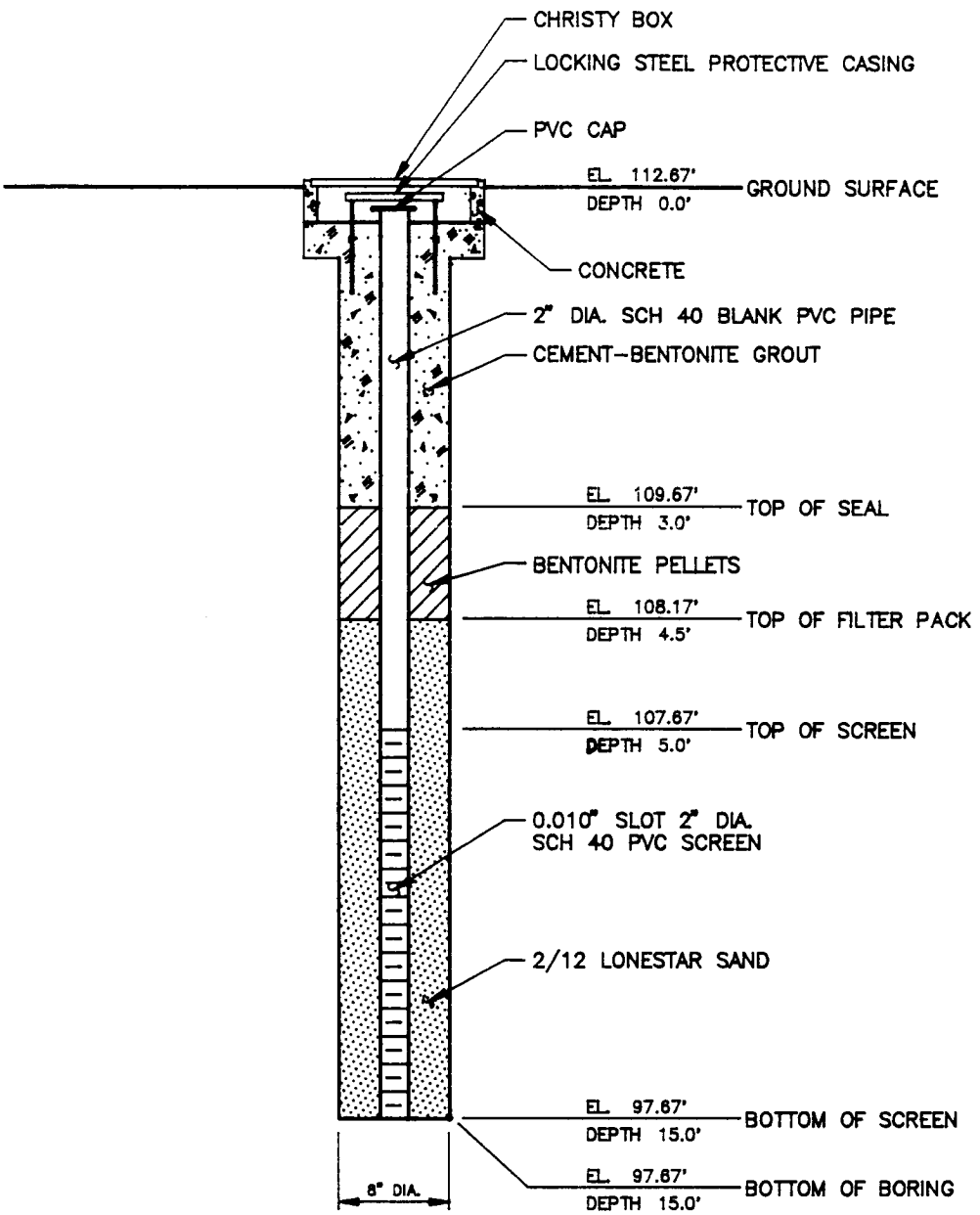
Monitoring Well Detail

PROJECT No. 86-018-1804

WELL No. MW530-3

PROJECT NAME NAS ALAMEDA-PHASE 2A SITE INVESTIGATION

WELL LOCATION SOUTHWEST OF BUILDING 530 BY TANKS DATE 7-13-90 BY RMD



NOTES:

1. NOT DRAWN TO SCALE.
2. SEE BORING LOG FOR DETAILED SOIL DESCRIPTION.

APPENDIX F

OIL REFINERY SITE
BORING LOGS AND MONITORING WELL
CONSTRUCTION DETAILS

Soil Boring Log

PROJECT No. 86-018-1804
BORING No. MWOR-1
LOGGED BY RMD

PROJECT NAME: NAS Alameda - Phase 2A Site Investigations
BORING LOCATION: Northeast of Building 397 SURFACE ELEV. 114.41 feet
DRILLER: Spectrum Exploration - Garry Buss DATE: START 7/16/90 FINISH 7/16/90

DEPTH	SAMPLE No.	TYPE	INTERVAL FROM	INTERVAL TO	BLOW COUNT 0" to 6"	BLOW COUNT 6" to 12"	BLOW COUNT 12" to 18"	REC (in)	USCS SOIL TYPE	WC (%)	qu (TSF)	LAYER DEPTH	SOIL DESCRIPTION AND REMARKS	PIEZO
													Asphalt. (Fill)	
	1	CS	0.5	2.0	5	24	16	13	SM			0.5	Dense, brown to light brown, silty fine sand, moist. (Fill)	
	2	CS	2.0	3.5	7	16	15	16	SM					
5	3	CS	3.5	5.0	8	6	4	15	SM				increased silt content below 4.0 feet.	
	4	CS	5.0	6.5	3	4	4	17	SM			5.0	Loose, brown, silty fine sand, moist. saturated below 6.3 feet.	X
	5	CS	6.5	8.0	3	2	2	16	SM					X
	6	CS	8.0	9.5	3	4	8	18	SC			8.0	Medium dense, orange brown mottled with gray, clayey fine sand, saturated. (Merritt Sand)	X
10														X
	7	CS	9.5	11.0	6	8	16	18	SC	SM 12% D5			clay content decreases at 9.5 feet.	X
	8	CS	11.0	12.5	2	8	10	15	SC				clay content increase at 11.0 feet.	X
	9	CS	12.5	14.0	8	9	16	17	SC					X
15	10	CS	14.0	15.5	6	7	12	14	SC					X
												15.5	Bottom of Boring at 15.5 feet.	
													Notes:	
20													1. Boring was advanced using 8-inch-diameter hollow stem augers.	
													2. Groundwater was encountered at 6.3 feet during drilling.	
25													3. Sampler type: California Sampler (CS) O.D.: 2.5 inches I.D.: 2.0 inches	
													4. Boring was converted to a monitoring well upon completion of drilling.	
30													5. OVA readings: a) 2 ppm at 3.0 feet.	
35														
40														

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Soil Boring Log

PROJECT No. 86-018-1804
BORING No. MWOR-2
LOGGED BY BB

PROJECT NAME: NAS Alameda - Phase 2A Site Investigations
BORING LOCATION: NE corner of 9th Street and Avenue L SURFACE ELEV. 114.12 feet
DRILLER: Spectrum Exploration - Garry Buss DATE: START 7/17/90 FINISH 7/17/90

DEPTH	SAMPLE No.	TYPE	INTERVAL FROM	INTERVAL TO	BLOW COUNT 0" to 6"	BLOW COUNT 6" to 12"	BLOW COUNT 12" to 18"	REC (in)	USCS SOIL TYPE	WC (%)	qu (TSF)	LAYER DEPTH	SOIL DESCRIPTION AND REMARKS	PIEZO
	1	CS	0.0	1.5	2	5	11	6	GM				Medium dense, brown silty gravel, dry. (Fill)	
	2	CS	1.5	3.0	15	15	24	14	GM			2.8	Dense, light brown, silty fine sand,	
	3	CS	3.0	4.5	12	15	20	14	SM				moist, with some shells. (Fill)	
5														
	4	CS	4.5	6.0	6	8	12	14	SM					X
	5	CS	6.0	7.5	5	5	5	14	SM				becomes saturated below 6.0 feet.	X
													becomes medium dense at 6.0 feet.	X
	6	CS	7.5	9.0	5	7	7	14	SM				no shells below 7.5 feet.	X
10	7	CS	9.0	10.5	3	2	2	12	SM					X
														X
	8	CS	10.5	12.0	2	3	4	17	CL			11.0	Soft to medium stiff, dark gray, silty clay,	X
	9	CS	12.0	13.5	5	7	8	17	CL				trace of sand, occasional layers of	X
													sandy clay, saturated. (Bay Mud)	X
15	10	CS	13.5	15.0	6	8	12	2	CL					X
												15.0	Bottom of Boring at 15.0 feet.	
													Notes:	
20													1. Boring was advanced using 8-inch-diameter hollow stem augers.	
													2. Groundwater was encountered at 6.0 feet during drilling.	
25													3. Sampler type: California Sampler (CS) O.D.: 2.5 inches I.D.: 2.0 inches	
30													4. Boring was converted to a monitoring well upon completion of drilling.	
35													5. OVA readings: No OVA readings observed during drilling.	
40														

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Soil Boring Log

PROJECT No. 86-018-1804
BORING No. MWOR-3
LOGGED BY BB

PROJECT NAME: NAS Alameda - Phase 2A Site Investigations
BORING LOCATION: E side of 11th St. bet. Avenues K and L SURFACE ELEV. 114.82 feet
DRILLER: Spectrum Exploration - Garry Buss DATE: START 7/17/90 FINISH 7/17/90

DEPTH	SAMPLE No.	TYPE	INTERVAL FROM	INTERVAL TO	BLOW COUNT 0" 6"	BLOW COUNT 6" 12"	BLOW COUNT 12" 18"	REC (in)	USCS SOIL TYPE	WC (%)	qu (TSF)	LAYER DEPTH	SOIL DESCRIPTION AND REMARKS	PIEZO
	1	CS	0.0	1.5	20	21	26	13	SM				Dense, light brown, silty fine sand, moist. (Fill)	
	2	CS	1.5	3.0	11	22	33	15	SM					
	3	CS	3.0	4.5	10	8	9	15	SM					
5														
	4	CS	4.5	6.0	4	2	2	6	SM			5.0	Loose black to dark gray brown, silty fine sand, moist, trace of clay. saturated below 6 feet.	X
	5	CS	6.0	7.5	4	5	8	12	SM					X
	6	CS	7.5	9.0	6	7	4	14	SM-SC			8.0	Medium dense, mottled gray to orange brown, clayey sand, saturated, pockets of gray clay.	X
10	7	CS	9.0	10.5	10	10	18	16	SC					X
	8	CS	10.5	12.0	7	10	20	18	SC					X
	9	CS	12.0	13.5	7	10	13	14	SC					X
15	10	CS	13.5	15.0	12	14	16	8	SM			14.0	Dense, orange brown, silty sand, saturated, trace of clay. (Merritt Sand)	X
												15.0	Bottom of Boring at 15.0 feet.	
20													Notes:	
													1. Boring was advanced using 8-inch-diameter hollow stem augers.	
25													2. Groundwater was encountered at 6.0 feet during drilling.	
													3. Sampler type: California Sampler (CS) O.D.: 2.5 inches I.D.: 2.0 inches	
30													4. Boring was converted to a monitoring well upon completion of drilling.	
35													5. OVA readings: No OVA readings observed during drilling.	
40														

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Soil Boring Log

PROJECT No. 86-018-1804
BORING No. MWOR-4
LOGGED BY RMD

PROJECT NAME: NAS Alameda - Phase 2A Site Investigations
BORING LOCATION: Near fence on east side of storage yard SURFACE ELEV. 113.40 feet
DRILLER: Spectrum Exploration - Garry Buss DATE: START 7/19/90 FINISH 7/19/90

DEPTH	SAMPLE No.	SAMPLE TYPE	SAMPLE INTERVAL FROM	SAMPLE INTERVAL TO	BLOW COUNT 0" to 6"	BLOW COUNT 6" to 12"	BLOW COUNT 12" to 18"	REC (in)	USCS SOIL TYPE	WC (%)	qu (TSF)	LAYER DEPTH	SOIL DESCRIPTION AND REMARKS	PIEZO
													Asphalt. (Fill)	
	1	CS	0.5	2.0	22	34	13	13	GM			0.3	Red baserock. (Fill)	
	2	CS	2.0	3.5	12	14	14	15	SM			1.8	Medium dense, brown, silty fine sand, moist. (Fill)	
5	3	CS	3.5	5.0	6	8	6	14	SM				saturated below 4.5 feet.	
	4	CS	5.0	6.5	2	3	4	15	SM					X
														X
	5	CS	6.5	8.0	6	10	13	16	SC			6.8	Medium dense, mottled gray, orange	X
	6	CS	8.0	9.5	6	12	17	17	SC				brown, clayey sand, saturated, with	X
10													some silt. (Merritt Sand)	X
	7	CS	9.5	11.0	8	12	16	16	SC					X
	8	CS	11.0	12.5	10	11	13	0	SM			11.0	Medium dense, orange brown, silty sand,	X
													saturated. (Merritt Sand)	X
	9	CS	12.5	14.0	5	10	15	17	SM					X
15	10	CS	14.0	15.0	3	10		12	SM					X
												15.0	Bottom of Boring at 15.0 feet.	
													Notes:	
20													1. Boring was advanced using 8-inch-diameter hollow stem augers.	
													2. Groundwater was encountered at 4.5 feet during drilling.	
25													3. Sampler type: California Sampler (CS) O.D.: 2.5 inches I.D.: 2.0 inches	
30													4. Boring was converted to a monitoring well upon completion of drilling.	
35													5. OVA readings: No OVA readings observed during drilling.	
40														

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Soil Boring Log

PROJECT No. 86-018-1804
BORING No. MWOR-5
LOGGED BY BB

PROJECT NAME: NAS Alameda - Phase 2A Site Investigations
BORING LOCATION: Southeast corner of storage yard SURFACE ELEV. 113.83 feet
DRILLER: Spectrum Exploration - Garry Buss DATE: START 7/19/90 FINISH 7/19/90

DEPTH	SAMPLE No.	TYPE	INTERVAL FROM	INTERVAL TO	BLOW COUNT 0" to 6"	BLOW COUNT 6" to 12"	BLOW COUNT 12" to 18"	REC (in)	USCS SOIL TYPE	WC (%)	qu (TSF)	LAYER DEPTH	SOIL DESCRIPTION AND REMARKS	PIEZO
													Asphalt. (Fill)	
	1	CS	0.5	2.0	30	25	20	13	GP			0.5	Dense, dark brown, silty sandy gravel, moist, some silt. (Fill)	
	2	CS	2.0	3.5	8	10	10	0	GP					
5	3	CS	3.5	5.0	15	20	23	0	GP				(Between 2.5 to 7.0 feet, encountered abundant hard gravel.)	X
	4	CS	5.0	6.5	23			0	GP				saturated below 6.5 feet.	X
	5	CS	6.5	8.0	9	5	3	6	GP				becomes less gravelly below 7.0 feet.	X
	6	CS	8.0	9.5	3	3	9	12	GP					X
10														X
	7	CS	9.5	11.0	8	10	15	18	GP			11.0	Dense, dark orange brown, clayey silty fine sand, saturated, some clay. (Merritt Sand).	X
	8	CS	11.0	12.5	14	12	20	18	SM					X
	9	CS	12.5	14.0	9	15	20	18	SM					X
15	10	CS	14.0	15.5	8	15	25	13	SM					X
												15.5	Bottom of Boring at 15.5 feet.	
20													Notes:	
													1. Boring was advanced using 8-inch-diameter hollow stem augers.	
													2. Groundwater was encountered at 6.5 feet during drilling.	
25													3. Sampler type: California Sampler (CS) O.D.: 2.5 inches I.D.: 2.0 inches	
30													4. Boring was converted to a monitoring well upon completion of drilling.	
													5. OVA readings: No OVA readings observed during drilling.	
35														
40														

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Soil Boring Log

PROJECT No. 86-018-1804
BORING No. BOR-6
LOGGED BY TGB

PROJECT NAME: NAS Alameda - Phase 2A Site Investigations
BORING LOCATION: In parking lot south of Building 360 SURFACE ELEV. 114.7 feet
DRILLER: Spectrum Exploration - Garry Buss DATE: START 7/5/90 FINISH 7/5/90

DEPTH	SAMPLE No.	TYPE	INTERVAL FROM	INTERVAL TO	BLOW COUNT 0" to 6"	BLOW COUNT 6" to 12"	BLOW COUNT 12" to 18"	REC (in)	USCS SOIL TYPE	WC (%)	qu (TSF)	LAYER DEPTH	SOIL DESCRIPTION AND REMARKS	PIEZO
													Asphalt. (Fill)	
	1	CS	0.5	2.0	14	21	14	12	SM			1.0	Medium dense, light brown, silty fine sand,	
	2	CS	2.0	3.5	4	7	5	15	SM				dry, no odor. (Fill)	
													dark brown, silty sand layer at 2.5 feet.	
5	3	CS	3.5	5.0	1	2	1	12	SM				becomes loose at 3.5 feet.	
	4	CS	5.0	6.5	1	1	1	18	SM				color change to brown at 3.5 feet.	
													becomes saturated below 5.0 feet.	
	5	CS	6.5	8.0	1	1	1	15	SM				trace of clay no odor.	
	6	CS	8.0	9.5	3	4	10	18	CL			8.0	Stiff, orange brown-mottled gray,	
10													sandy clay, saturated. (Merritt Sand)	
	7	CS	9.5	11.0	9	10	11	18	CL			10.5	Dense, orange-brown mottled gray,	
	8	CS	11.0	12.5	5	12	12	18	SC				clayey sand, saturated. (Merritt Sand)	
													becomes more silty below 13 feet.	
	9	CS	12.5	14.0	5	10	13	18	SC					
15	10	CS	14.0	15.0	4	8		12	SC					
												15.0	Bottom of Boring at 15.0 feet.	
													Notes:	
20													1. Boring was advanced using 8-inch-diameter hollow stem augers.	
													2. Groundwater was encountered at 5.0 feet during drilling.	
25													3. Sampler type: California Sampler (CS) O.D.: 2.5 inches I.D.: 2.0 inches	
30													4. Boring was backfilled with cement/ bentonite grout upon completion of drilling.	
35													5. OVA readings: No OVA readings observed during drilling.	
40														

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Soil Boring Log

PROJECT No. 86-018-1804
BORING No. BOR-7
LOGGED BY TGB

PROJECT NAME: NAS Alameda - Phase 2A Site Investigations
BORING LOCATION: In parking lot south of Building 360 SURFACE ELEV. 114.4 feet
DRILLER: Spectrum Exploration - Garry Buss DATE: START 7/5/90 FINISH 7/5/90

DEPTH	SAMPLE No.	SAMPLE TYPE	SAMPLE INTERVAL FROM	SAMPLE INTERVAL TO	BLOW COUNT 0" to 6"	BLOW COUNT 6" to 12"	BLOW COUNT 12" to 18"	REC (in)	USCS SOIL TYPE	WC (%)	qu (TSF)	LAYER DEPTH	SOIL DESCRIPTION AND REMARKS	PIEZO
													Asphalt. (Fill)	
	1	CS	0.5	2.0	9	11	8	12	SM			0.5	Medium dense, light brown, silty fine sand, dry. (Fill)	
	2	CS	2.0	3.5	4	3	2	12	SM				color change to brown at 3.0 feet.	
5	3	CS	3.5	5.0	1	1	1	12	SM				saturated below 4.5 feet.	
	4	CS	5.0	6.5	1	1	1	18	SM					
	5	CS	6.5	8.0	1	2	5	18	SM-SC			7.5	Medium dense, orange brown mottled gray, clayey fine sand, saturated. (Merritt Sand)	
	6	CS	8.0	9.5	3	4	7	18	SC-CL					
10														
	7	CS	9.5	11.0	7	9	10	18	CL				sandy clay layer between 9.0 and 9.5 feet.	
	8	CS	11.0	12.5	4	7	9	18	CL-SM			12.0	color change to brown at 11.0 feet.	
	9	CS	12.5	14.0	9	19	20	18	SM				Medium dense, orange brown, silty sand,	
15	10	CS	14.0	15.0	4	9		12	SM				saturated. (Merritt Sand)	
												15.0	Bottom of Boring at 15.0 feet.	
20													Notes:	
25													1. Boring was advanced using 8-inch-diameter hollow stem augers.	
30													2. Groundwater was encountered at 4.5 feet during drilling.	
35													3. Sampler type: California Sampler (CS) O.D.: 2.5 inches I.D.: 2.0 inches	
40													4. Boring was backfilled with cement/ bentonite grout upon completion of drilling.	
													5. OVA readings: No OVA readings observed during drilling.	

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Soil Boring Log

PROJECT No. 86-018-1804
BORING No. BOR-8
LOGGED BY RMD

PROJECT NAME: NAS Alameda - Phase 2A Site Investigations
BORING LOCATION: South of Building 397 by fence SURFACE ELEV. 114.5 feet
DRILLER: Spectrum Exploration - Garry Buss DATE: START 7/16/90 FINISH 7/16/90

DEPTH	SAMPLE No.	TYPE	INTERVAL FROM	INTERVAL TO	BLOW COUNT 0" to 6"	BLOW COUNT 6" to 12"	BLOW COUNT 12" to 18"	REC (in)	USCS SOIL TYPE	WC (%)	qu (TSF)	LAYER DEPTH	SOIL DESCRIPTION AND REMARKS	PIEZO
	1	CS	0.0	1.5	3	6	9	15	SM				Medium dense, light brown, silty fine sand, moist. (Fill)	
	2	CS	1.5	3.0	3	7	8	15	SM					
	3	CS	3.0	4.5	5	4	6	17	SM					
5														
	4	CS	4.5	6.0	3	4	5	15	SM					
	5	CS	6.0	7.5	3	3	3	14	SM				becomes saturated at 6.0 feet.	
												6.8	Loose, gray, silty fine sand, saturated, some shells.	
	6	CS	7.5	9.0	2	2	2	15	SM					
10	7	CS	9.0	10.5	2	2	3	17	CL			9.3		
													Soft, dark gray, silty clay, saturated, some iron oxide stains. (Bay Mud)	
	8	CS	10.5	12.0	3	2	1	18	CL					
	9	CS	12.0	13.5	14	21	25	16	SC			12.0		
													Dense, mottled gray, orange brown, clayey fine sand, saturated. (Merritt Sand)	
15	10	CS	13.5	15.0	10	15	20	9	SC			15.0	Bottom of Boring at 15.0 feet.	
													Notes:	
20													1. Boring was advanced using 8-inch-diameter hollow stem augers.	
													2. Groundwater was encountered at 6.0 feet during drilling.	
25													3. Sampler type: California Sampler (CS) O.D.: 2.5 inches I.D.: 2.0 inches	
30													4. Boring was backfilled with cement/ bentonite grout upon completion of drilling.	
35													5. OVA readings: a) 2-10 ppm at 10.0 feet. b) 20-30 ppm at 11.0 feet. c) 30 ppm at 13.0 feet.	
40														

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Soil Boring Log

PROJECT No. 86-018-1804
BORING No. BOR-9
LOGGED BY BB

PROJECT NAME: NAS Alameda - Phase 2A Site Investigations
BORING LOCATION: Off the southeast corner of Building 397 SURFACE ELEV. 114.6 feet
DRILLER: Spectrum Exploration - Garry Buss DATE: START 7/13/90 FINISH 7/13/90

DEPTH	SAMPLE No.	TYPE	INTERVAL FROM	INTERVAL TO	BLOW COUNT 0" to 6"	BLOW COUNT 6" to 12"	BLOW COUNT 12" to 18"	REC (in)	USCS SOIL TYPE	WC (%)	qu (TSF)	LAYER DEPTH	SOIL DESCRIPTION AND REMARKS	PIEZO
	1	CS	0.0	1.5	7	14	13	14	GM-SM				Medium dense, dark brown, silty gravel, dry. (Fill)	
	2	CS	1.5	3.0	8	11	13	13	SM			1.0	Medium dense, light brown, silty fine sand, moist. (Fill)	
	3	CS	3.0	4.5	5	4	5	13	SC					
5														
	4	CS	4.5	6.0	3	2	4	14	SM			4.5	Medium dense to dense, gray, clayey sand, saturated, some silt, strong odor. (Fill)	
	5	CS	6.0	7.5	4	3	4	18	SM			6.0		
	6	CS	7.5	9.0	3	3	5	15	SM			8.5	Loose to medium dense, gray, silty sand, wet, some clay, strong odor. (Fill)	
10	7	CS	9.0	10.5	4	8	15	15	SM				Medium dense, black, silty sand, moist, trace of clay. color change to dark gray at 12.0 feet, some discoloration (iron stains), pervasive odor.	
	8	CS	10.5	12.0	3	11	14	15	SM					
	9	CS	12.0	13.5	12	17	18	18	SM					
15	10	CS	13.5	15.0	14	15	15	18	SM			15.0	Bottom of Boring at 15.0 feet.	
20													Notes: 1. Boring was advanced using 8-inch-diameter hollow stem augers. 2. Groundwater was encountered at 7.0 feet during drilling. 3. Sampler type: California Sampler (CS) O.D.: 2.5 inches I.D.: 2.0 inches 4. Boring was backfilled with cement/ bentonite grout upon completion of drilling. 5. OVA readings: a) 5 ppm at 4.5 feet. b) 100 ppm at 5.5 feet. c) 100-150 ppm at 7.5 feet. d) 200 ppm at 9.5 feet. e) 300 ppm at 12.0 feet.	
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Soil Boring Log

PROJECT No. 86-018-1804
BORING No. BOR-10
LOGGED BY RMD

PROJECT NAME: NAS Alameda - Phase 2A Site Investigations
BORING LOCATION: South of Bldg. 397, east of Bldg. 169 SURFACE ELEV. 114.7 feet
DRILLER: Spectrum Exploration - Garry Buss DATE: START 7/12/90 FINISH 7/12/90

DEPTH	SAMPLE No.	SAMPLE TYPE	INTERVAL FROM	INTERVAL TO	BLOW COUNT 0" to 6"	BLOW COUNT 6" to 12"	BLOW COUNT 12" to 18"	REC (in)	USCS SOIL TYPE	WC (%)	qu (TSF)	LAYER DEPTH	SOIL DESCRIPTION AND REMARKS	PIEZO
	1	CS	0.0	1.5	14	18	20	13	SM				Dense, brown, silty fine sand, moist. (Fill)	
	2	CS	1.5	3.0	8	20	15	14	SM					
	3	CS	3.0	4.5	9	9	10	15	SM				becomes medium dense below 3.0 feet.	
5	4	CS	4.5	6.0	3	7	10	13	SM				becomes saturated at 5.0 feet.	
	5	CS	6.0	7.5	4	8	5	14	SM				color change to brown gray at 6.8 feet.	
	6	CS	7.5	9.0	2	1	4	14	SM			8.0	Loose, gray, silty sand, saturated, with	
10	7	CS	9.0	10.5	1	1	3	18	SM-CL			9.8	some shells.	
	8	CS	10.5	12.0	1	3	6	16	CL				Soft to medium stiff, dark gray, silty clay, saturated. (Bay Mud)	
	9	CS	12.0	13.5	10	7	20	18	CL-SC			12.3	iron-stained at top of unit, organic	
												13.0	matter and soil discoloration at 12.0 feet	
15	10	CS	13.5	15.0	16	21	25	15	SC				Medium dense, dark green gray, clayey	
												15.0	sand, saturated, abundant oil stains, strong odor.	
													Dense, orange brown clayey sand, saturated. (Merritt Sand)	
20													Bottom of Boring at 15.0 feet.	
													Notes:	
25													1. Boring was advanced using 8-inch-diameter hollow stem augers.	
													2. Groundwater was encountered at 5.0 feet during drilling.	
30													3. Sampler type: California Sampler (CS) O.D.: 2.5 inches I.D.: 2.0 inches	
35													4. Boring was backfilled with cement/ bentonite grout upon completion of drilling.	
													5. OVA readings: a) 10 ppm at 10.0 feet. b) 10 ppm at 12.0 feet.	
40														

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Soil Boring Log

PROJECT No. 86-018-1804
BORING No. BOR-11
LOGGED BY BB

PROJECT NAME: NAS Alameda - Phase 2A Site Investigations
BORING LOCATION: Corner of 10th Street and Avenue L SURFACE ELEV. 114.4 feet
DRILLER: Spectrum Exploration - Garry Buss DATE: START 7/18/90 FINISH 7/18/90

DEPTH	SAMPLE No.	SAMPLE TYPE	SAMPLE INTERVAL FROM	SAMPLE INTERVAL TO	BLOW COUNT 0" to 6"	BLOW COUNT 6" to 12"	BLOW COUNT 12" to 18"	REC (in)	USCS SOIL TYPE	WC (%)	qu (TSF)	LAYER DEPTH	SOIL DESCRIPTION AND REMARKS	PIEZO
	1	CS	0.0	1.5	28	21	14	13	SM				Dense, light brown, silty sand, moist, trace of gravel. (Fill)	
	2	CS	1.5	3.0	9	11	12	13	SM					
	3	CS	3.0	4.5	3	5	4	15	SM					
5	4	CS	4.5	6.0	3	3	4	15	SM					
	5	CS	6.0	7.5	3	3	5	18	SM				saturated below 7.0 feet.	
	6	CS	7.5	9.0	5	2	2	15	SM				color change to gray brown at 8.0 feet.	
10	7	CS	9.0	10.5	1	1	1	15	SM-CL			10.0	some clay pockets below 9.0 feet.	
	8	CS	10.5	12.0	3	8	15	18	CL-SM				Very soft, gray silty clay, saturated. (Bay Mud)	
	9	CS	12.0	13.5	3	18	11		SM				Medium dense, dark gray to brown, silty	
												12.5	fine sand, saturated, trace of clay,	
15	10	CS	13.5	15.0	3	2	11		SM				some shells.	
												15.0	color change to brown at 14.0 feet.	
													Bottom of Boring at 15.0 feet.	
20														
													Notes:	
													1. Boring was advanced using 8-inch-diameter hollow stem augers.	
													2. Groundwater was encountered at 7.0 feet during drilling.	
25														
													3. Sampler type: California Sampler (CS) O.D.: 2.5 inches I.D.: 2.0 inches	
30														
													4. Boring was backfilled with cement/ bentonite grout upon completion of drilling.	
35														
													5. OVA readings: a) 2 ppm at 1.5 feet. b) 2 ppm at 10.0 feet.	
40														

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Soil Boring Log

PROJECT No. 86-018-1804
BORING No. BOR-12
LOGGED BY BB

PROJECT NAME: NAS Alameda - Phase 2A Site Investigations
BORING LOCATION: NW corner of Bldg. 530 along Avenue L SURFACE ELEV. 114.6 feet
DRILLER: Spectrum Exploration - Garry Buss DATE: START 7/18/90 FINISH 7/18/90

DEPTH	SAMPLE No.	TYPE	INTERVAL FROM	INTERVAL TO	BLOW COUNT 0" to 6"	BLOW COUNT 6" to 12"	BLOW COUNT 12" to 18"	REC (in)	USCS SOIL TYPE	WC (%)	qu (TSF)	LAYER DEPTH	SOIL DESCRIPTION AND REMARKS	PIEZO
	1	CS	0.0	1.5	18	14	14	13	SM			0.3	Asphalt. (Fill)	
													Medium dense, light brown, silty fine sand,	
	2	CS	1.5	3.0	8	10	12	12	SM				moist. (Fill)	
	3	CS	3.0	4.5	4	8	10	13	SM					
5														
	4	CS	4.5	6.0	6	6	7	14	SM				some shells at 5.0 feet.	
	5	CS	6.0	7.5	4	5	5	15	SM				saturated below 6 feet.	
	6	CS	7.5	9.0	5	2	3	12	SM				color change to light gray at 8.0 feet.	
10	7	CS	9.0	10.5	1	2	2	13	SM-CL			9.5		
												~~9.5~~ 10.5	Soft, gray, sandy silty clay, saturated,	
	8	CS	10.5	12.0	3	4	20	18	CL			~~10.5~~	some sand. (Bay Mud)	
	9	CS	12.0	13.5	13	23	14	18	SM			12.0	Stiff, dark gray to black, silty clay,	
													saturated. (Bay Mud)	
15	10	CS	13.5	15.0	3	20	25	14	SM				Dense, light orange brown, silty fine sand,	
													saturated, some clay. (Merritt Sand)	
												15.0	Bottom of Boring at 15.0 feet.	
													Notes:	
20														
													1. Boring was advanced using 8-inch-diameter hollow stem augers.	
													2. Groundwater was encountered at 6.0 feet during drilling.	
25														
													3. Sampler type: California Sampler (CS) O.D.: 2.5 inches I.D.: 2.0 inches	
30														
													4. Boring was backfilled with cement/ bentonite grout upon completion of drilling.	
35														
													5. OVA readings: a) 10 ppm at 1.5 feet. b) 0 ppm at 3.0 feet. c) 30-40 ppm at 10.5 feet. No odor noticed.	
40														

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Soil Boring Log

PROJECT No. 86-018-1804
BORING No. BOR-13
LOGGED BY BB

PROJECT NAME: NAS Alameda - Phase 2A Site Investigations
BORING LOCATION: NE corner of 10th Street and Avenue L SURFACE ELEV. 114.7 feet
DRILLER: Spectrum Exploration - Garry Buss DATE: START 7/3/90 FINISH 7/3/90

DEPTH	SAMPLE No.	TYPE	INTERVAL FROM	INTERVAL TO	BLOW COUNT 0" to 6"	6" to 12"	12" to 18"	REC (in)	USCS SOIL TYPE	WC (%)	qu (TSF)	LAYER DEPTH	SOIL DESCRIPTION AND REMARKS	PIEZO
	1	CS	0.0	1.5	10	11	11	13	SM				Medium dense, dark brown, silty sand, dry, occasional rock fragments. (Fill)	
	2	CS	1.5	3.0	7	11	10	15	SP-SM			1.5	Medium dense, light brown, fine sand, moist. (Fill)	
	3	CS	3.0	4.5	3	8	7	15	SP-SM					
5														
	4	CS	4.5	6.0	3	6	4	15	SP-SM				becomes loose at 5.0 feet.	
	5	CS	6.0	7.5	1	2	1	15	CL			6.5	saturated below 5.5 feet.	
													Soft, dark gray, silty sandy clay, some silt,	
	6	CS	7.5	9.0	1	1	1	15	CL				iron stains at top of unit, saturated. (Bay	
10	7	CS	9.0	10.5	35			6	CL				Mud Dredge Spoils Fill)	
													sampler refusal at 9.5 feet.	
	8	CS	10.5	12.0	6	15	17	15	CL-SC			11.5	Medium dense, mottled gray-orange	
	9	CS	12.0	13.5	9	9	10	6	SC				brown, clayey fine sand, saturated.	
													(Merritt Sand)	
15	10	CS	13.5	15.0	8	10	8	18	SC				color change to brown at 12.5 feet.	
												15.0	Bottom of Boring at 15.0 feet.	
													Notes:	
20													1. Boring was advanced using 8-inch-diameter hollow stem augers.	
													2. Groundwater was encountered at 5.5 feet during drilling.	
25													3. Sampler type: California Sampler (CS) O.D.: 2.5 inches I.D.: 2.0 inches	
30													4. Boring was backfilled with cement/ bentonite grout upon completion of drilling.	
35													5. OVA readings: No OVA readings observed during drilling.	
40														

Soil Boring Log

PROJECT No. 86-018-1701
BORING No. BOR-14 (OR-1)
LOGGED BY Bill Johnston

PROJECT NAME: NAS Alameda - Phase 1 Exploratory Borings
BORING LOCATION: Near NE Corner of Ave. K and 11th St. SURFACE ELEV. 114.3 feet
DRILLER: Beylik Drilling - Alex Bashta DATE: START 5/23/90 FINISH 5/23/90

DEPTH	SAMPLE No.	SAMPLE TYPE	INTERVAL FROM	INTERVAL TO	BLOW COUNT 0" to 6"	BLOW COUNT 6" to 12"	BLOW COUNT 12" to 18"	REC (in)	USCS SOIL TYPE	WC (%)	qu (TSF)	LAYER DEPTH	SOIL DESCRIPTION AND REMARKS	PIEZO
	1	CS	0.0	2.0	6	6	9	24	SP				Dense brown silty fine sand, moist	
					9									
	2	CS	2.0	4.0	7	8	9	18	SP					
					11							4.5	Medium stiff gray clayey silt, moist	
5	3	CS	4.0	6.0	2	2	1	12	SP					
					1				ML			6.0	Medium dense brown clayey sand,	
	4	CS	6.0	8.0	P								saturated, some gray to black mottling	
								18	SC				at top of unit, slight odor.	
	5	CS	8.0	10.0	P								(Merritt Sand)	
10								18	SC					
	5	CS	16.0	12.0	P									
								24	CL					
	7	CS	12.0	14.0	P									
								24	CL				some interbedded sandy clay layers.	
15	8	CS	14.0	16.0	P									
								24	SC					
												16.0	Bottom of boring at 16.0 feet.	
													Notes:	
20														
													1. Boring was advanced using 8-inch-diameter hollow stem augers.	
													2. Ground water was encountered at 6.0 feet during drilling.	
25														
													3. Sampler type: California Sampler (CS) O.D.: 2.5 inches I.D.: 2.0 inches	
30														
													4. Boring was backfilled with cement/ bentonite grout upon completion of drilling.	
35														
													5. OVA readings: No OVA readings observed during drilling.	
													6. P refers to the sampler being advanced downward by the weight of the drill stem.	
40														

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Soil Boring Log

PROJECT No. 86-018-1804
BORING No. BOR-15
LOGGED BY BB

PROJECT NAME: NAS Alameda - Phase 2A Site Investigations
BORING LOCATION: Storage Yard East of 11th Street SURFACE ELEV. 114.7 feet
DRILLER: Spectrum Exploration - Garry Buss DATE: START 7/17/90 FINISH 7/17/90

DEPTH	SAMPLE No.	TYPE	INTERVAL FROM	INTERVAL TO	BLOW COUNT 0" to 6"	6" to 12"	12" to 18"	REC (in)	USCS SOIL TYPE	WC (%)	qu (TSF)	LAYER DEPTH	SOIL DESCRIPTION AND REMARKS	PIEZO
	1	CS	0.0	1.5	25	25	15	12	SM				Dense, dark brown to brown, silty sand, moist, some gravel. (Fill)	
	2	CS	1.5	3.0	11	12	16	12	SM					
	3	CS	3.0	4.5	10	15	8	14	SM					
5													trace of clay below 3.0 feet.	
	4	CS	4.5	6.0	3	4	5	15	SM				color change to gray at 5.0 feet.	
	5	CS	6.0	7.5	3	3	3	15	SM				saturated below 5.0 feet.	
													Medium dense, dark gray brown, silty	
	6	CS	7.5	9.0	3	5	9	15	SM			8.0	sand, saturated, trace of clay, strong	
10	7	CS	9.0	10.5	4	4	4	15	SC			10.0	oil petroleum odor. (Fill)	
													color change to gray at 10.0 feet.	
	8	CS	10.5	12.0	7	9	15	18	SC				Loose to medium dense, gray, clayey	
	9	CS	12.0	13.5	13	18	20	18	SC			12.0	sand, saturated, strong petroleum odor.	
													Very dense, mottled gray dark orange	
15	10	CS	13.5	15.0	15	20	30	18	SC				brown, clayey fine sand, saturated,	
												15.0	some silt, strong odor and discoloration	
													(Merritt Sand)	
													Bottom of Boring at 15.0 feet.	
20													Notes:	
													1. Boring was advanced using 8-inch-diameter hollow stem augers.	
25													2. Groundwater was encountered at 5.0 feet during drilling.	
													3. Sampler type: California Sampler (CS) O.D.: 2.5 inches I.D.: 2.0 inches	
30														
													4. Boring was backfilled with cement/ bentonite grout upon completion of drilling.	
35														
													5. OVA readings: a) 20 ppm at 7.5 feet. b) 100 ppm at 9.0 feet. c) 10 ppm at 12.0 feet.	
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Soil Boring Log

PROJECT No. 86-018-1804
BORING No. BOR-16
LOGGED BY BB

PROJECT NAME: NAS Alameda - Phase 2A Site Investigations
BORING LOCATION: Corner of Central and Pacific Avenues SURFACE ELEV. 113.3 feet
DRILLER: Spectrum Exploration - Garry Buss DATE: START 7/23/90 FINISH 7/23/90

DEPTH	SAMPLE No.	TYPE	INTERVAL FROM	INTERVAL TO	BLOW COUNT 0" to 6"	BLOW COUNT 6" to 12"	BLOW COUNT 12" to 18"	REC (in)	USCS SOIL TYPE	WC (%)	qu (TSF)	LAYER DEPTH	SOIL DESCRIPTION AND REMARKS	PIEZO
	1	CS	0.0	1.5	12	12	16	12	ML				Medium dense, dark brown, sandy silt, dry, some roots. (Fill)	
	2	CS	1.5	3.0	7	13	8	12	ML-SM			2.5	Medium dense, black to dark brown,	
	3	CS	3.0	4.5	1	1	2	15	SM				silty fine sand, no odor, moist. (Fill)	
5													saturated below 4.0 feet.	
	4	CS	4.5	6.0	2	2	2	15	SM			5.0	Loose, brown, silty fine sand, saturated.	
	5	CS	6.0	7.5	3	3	4	18	SM				(Merritt Sand)	
	6	CS	7.5	9.0	5	15	10	15	CL-SC			8.0	Stiff, mottled gray, orange brown, sandy	
10	7	CS	9.0	10.5	7	10	11	14	SC				clay, saturated. (Merritt Sand)	
												9.0	Medium dense, mottled gray, orange	
	8	CS	10.5	12.0	4	7	9	18	SC				brown, clayey fine sand, saturated.	
	9	CS	12.0	13.5	5	12	13	15	SC				(Merritt Sand)	
													with interbedded silty sand below 12.0	
15	10	CS	13.5	15.0	4	10	21	18	SC				feet.	
												15.0	Bottom of Boring at 15.0 feet.	
													Notes:	
20													1. Boring was advanced using 8-inch-diameter hollow stem augers.	
													2. Groundwater was encountered at 4.0 feet during drilling.	
25													3. Sampler type: California Sampler (CS) O.D.: 2.5 inches I.D.: 2.0 inches	
30													4. Boring was backfilled with cement/ bentonite grout upon completion of drilling.	
35													5. OVA readings: No OVA readings observed during drilling.	
40														

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Soil Boring Log

PROJECT No. 86-018-1804
BORING No. BOR-17
LOGGED BY BB

PROJECT NAME: NAS Alameda - Phase 2A Site Investigations
BORING LOCATION: NE corner of 11th Street and Avenue L SURFACE ELEV. 114.8 feet
DRILLER: Spectrum Exploration - Garry Buss DATE: START 7/17/90 FINISH 7/17/90

DEPTH	SAMPLE No.	TYPE	INTERVAL FROM	INTERVAL TO	BLOW COUNT 0" to 6"	BLOW COUNT 6" to 12"	BLOW COUNT 12" to 18"	REC (in)	USCS SOIL TYPE	WC (%)	qu (TSF)	LAYER DEPTH	SOIL DESCRIPTION AND REMARKS	PIEZO
	1	CS	0.0	1.5	20	15	10	12	SM				Medium dense, dark brown, silty sand, dry, some gravel. (Fill)	
	2	CS	1.5	3.0	10	7	8	12	SM			2.5	Medium dense, gray brown, silty fine sand, moist.	
	3	CS	3.0	4.5	5	6	5	14	SM				black oily discoloration and strong odor	
5	4	CS	4.5	6.0	3	3	3	18	SM			5.0	at 5.0 feet.	
	5	CS	6.0	7.5	3	3	4	15	SM				Medium dense, mottled orange-gray, silty sand, strong odor, occasional layers of clayey sand, moist. (Merritt Sand)	
	6	CS	7.5	9.0	6	7	10	18	SM				saturated below 6.0 feet.	
10	7	CS	9.0	10.5	10	10	17	15	SM				some clay of 7.5 feet.	
	8	CS	10.5	12.0	10	12	16	16	SM				trace of clay at 9.5 feet.	
	9	CS	12.0	13.5	10	15	15	16	SM				increased clay content at 10.0 feet, with gray-green discoloration and strong odor.	
15	10	CS	13.5	15.0	10	13	15	18	SM			15.0	Bottom of Boring at 15.0 feet.	
20													Notes:	
25													1. Boring was advanced using 8-inch-diameter hollow stem augers.	
30													2. Groundwater was encountered at 6.0 feet during drilling.	
35													3. Sampler type: California Sampler (CS) O.D.: 2.5 inches I.D.: 2.0 inches	
40													4. Boring was backfilled with cement/ bentonite grout upon completion of drilling.	
													5. OVA readings: a) 20 to 40 ppm at 2.5 feet. b) 80 to 100 ppm at 7.5 feet. c) 200 to 300 ppm at 10.5 feet.	

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Soil Boring Log

PROJECT No. 86-018-1804
BORING No. BOR-18
LOGGED BY RMD

PROJECT NAME: NAS Alameda - Phase 2A Site Investigations
BORING LOCATION: West side of Central Ave. SURFACE ELEV. 113.6 feet
DRILLER: Spectrum Exploration - Garry Buss DATE: START 7/23/90 FINISH 7/23/90

DEPTH	SAMPLE No.	SAMPLE TYPE	INTERVAL FROM	INTERVAL TO	BLOW COUNT 0" to 6"	BLOW COUNT 6" to 12"	BLOW COUNT 12" to 18"	REC (in)	USCS SOIL TYPE	WC (%)	qu (TSF)	LAYER DEPTH	SOIL DESCRIPTION AND REMARKS	PIEZO
	1	CS	0.0	1.5	17	10	12	16	SC			0.3	Asphalt. (Fill)	
	2	CS	1.5	3.0	6	5	6	16	SC				Medium dense, mottled black dark gray, clayey fine sand, moist, some silt. (Fill)	
	3	CS	3.0	4.5	2	1	1	16	SM			3.0	Very loose, gray, silty fine sand, wet. saturated below 3.5 feet.	
5	4	CS	4.5	6.0	1	1	2	14	SM			5.0	Loose, gray brown, silty fine sand, saturated, trace of gravel. (Fill)	
	5	CS	6.0	7.5	4	3	4	18	SM					
	6	CS	7.5	9.0	2	6	14	18	SC			7.5	Medium dense, mottled gray orange brown, clayey fine sand, saturated. (Merritt Sand)	
10	7	CS	9.0	10.5	11	10	11	18	SC					
	8	CS	10.5	12.0	4	15	18	18	SC					
	9	CS	12.0	13.5	16	15	12	18	SC				decreased clay content, increased silt content, becomes soupy at 13.5 feet.	
15	10	CS	13.5	15.0	6	8	11	15	SC			15.0	Bottom of Boring at 15.0 feet.	
20													Notes:	
25													1. Boring was advanced using 8-inch-diameter hollow stem augers.	
30													2. Groundwater was encountered at 3.5 feet during drilling.	
35													3. Sampler type: California Sampler (CS) O.D.: 2.5 inches I.D.: 2.0 inches	
40													4. Boring was backfilled with cement/ bentonite grout upon completion of drilling.	
													5. OVA readings: a) 2 to 5 ppm at 1.0 feet. b) 2 to 4 ppm at 2.5 feet.	

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Soil Boring Log

PROJECT No. 86-018-1804
BORING No. BOR-19
LOGGED BY BB

PROJECT NAME: NAS Alameda - Phase 2A Site Investigations
BORING LOCATION: NW corner of 11th Street and Avenue L SURFACE ELEV. 113.9 feet
DRILLER: Spectrum Exploration - Garry Buss DATE: START 7/18/90 FINISH 7/18/90

DEPTH	SAMPLE No.	TYPE	INTERVAL FROM	INTERVAL TO	BLOW COUNT 0" to 6"	BLOW COUNT 6" to 12"	BLOW COUNT 12" to 18"	REC (in)	USCS SOIL TYPE	WC (%)	qu (TSF)	LAYER DEPTH	SOIL DESCRIPTION AND REMARKS	PIEZO
	1	CS	0.0	1.5	41	25	27	12	SM				Very dense, light brown, silty fine sand, moist, slight odor. (Fill)	
	2	CS	1.5	3.0	8	12	17	13	SM					
	3	CS	3.0	4.5	8	10	11	15	SM				color change to gray at 3.5 feet.	
5	4	CS	4.5	6.0	7	7	15	13	SC			5.0	Medium dense, mottled orange green,	
	5	CS	6.0	7.5	8	12	23	14	SC			6.5	clayey fine sand, moist, strong odor. (Merritt Sand)	
	6	CS	7.5	9.0	17	21	25	15	SC				Dense, mottled orange gray green,	
10	7	CS	9.0	10.5	10	15	15	15	SC				clayey sand, moist.	
	8	CS	10.5	12.0	10	11	15	15	SC-SM			11.0	Medium dense, gray green, silty fine sand,	
	9	CS	12.0	13.5	10	10	10	15	SM				saturated, some clay.	
15	10	CS	13.5	15.0	8	12	9	15	SM				change to trace of clay at 13.5 feet.	
												15.0	Bottom of Boring at 15.0 feet.	
20													Notes:	
25													1. Boring was advanced using 8-inch-diameter hollow stem augers.	
													2. Groundwater was encountered at 11.0 feet during drilling.	
													3. Sampler type: California Sampler (CS) O.D.: 2.5 inches I.D.: 2.0 inches	
30													4. Boring was backfilled with cement/ bentonite grout upon completion of drilling.	
35													5. OVA readings: a) 50 ppm at 3.5 feet. b) 80 to 100 ppm at 6.0 feet. c) 30 ppm at 9.0 feet. d) 50 ppm at 10.5 feet.	
40														

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Soil Boring Log

PROJECT No. 86-018-1804
BORING No. BOR-20
LOGGED BY BB

PROJECT NAME: NAS Alameda - Phase 2A Site Investigations
BORING LOCATION: South of Avenue L, west of Bldg. 530 SURFACE ELEV. 114.1 feet
DRILLER: Spectrum Exploration - Garry Buss DATE: START 7/17/90 FINISH 7/17/90

DEPTH	SAMPLE No.	SAMPLE TYPE	SAMPLE INTERVAL FROM	SAMPLE INTERVAL TO	BLOW COUNT 0" to 6"	BLOW COUNT 6" to 12"	BLOW COUNT 12" to 18"	REC (in)	USCS SOIL TYPE	WC (%)	qu (TSF)	LAYER DEPTH	SOIL DESCRIPTION AND REMARKS	PIEZO
													Asphalt. (Fill)	
	1	CS	0.5	2.0	15	12	13	15	GP-SM			0.5	Medium dense, brown, silty sandy gravel, dry. (Fill)	
	2	CS	2.0	3.5	9	9	11	15	SM			1.0	Medium dense, light brown, silty fine sand,	
5	3	CS	3.5	5.0	6	8	8	15	SM				moist. (Fill)	
	4	CS	5.0	6.5	5	5	5	18	SM				saturated below 5.0 feet.	
	5	CS	6.5	8.0	3	3	2	12	SM				color change to brown at 8.0 feet.	
	6	CS	8.0	9.5	4	4	4	7	SM				(native soil approximately below	
10													8.0 feet)	
	7	CS	9.5	11.0	2	1	2	12	SM					
	8	CS	11.0	12.5	2	1	3	13	SM					
	9	CS	12.5	14.0	1	1	1	12	SM					
15	10	CS	14.0	15.5	2	2	1	12	SM			14.0	Loose, dark gray, silty sand, saturated. some shells.	
												15.5	Bottom of Boring at 15.5 feet.	
													Notes:	
20													1. Boring was advanced using 8-inch-diameter hollow stem augers.	
													2. Groundwater was encountered at 5.5 feet during drilling.	
25													3. Sampler type: California Sampler (CS) O.D.: 2.5 inches I.D.: 2.0 inches	
30													4. Boring was backfilled with cement/ bentonite grout upon completion of drilling.	
35													5. OVA readings: a) 10 ppm at 15.0 feet.	
40														

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Soil Boring Log

PROJECT No. 86-018-1804
BORING No. BOR-21
LOGGED BY BB

PROJECT NAME: NAS Alameda - Phase 2A Site Investigations
BORING LOCATION: Storage yard (near NE corner of Bldg. 530) SURFACE ELEV. 113.5 feet
DRILLER: Spectrum Exploration - Garry Buss DATE: START 7/19/90 FINISH 7/19/90

DEPTH	SAMPLE No.	TYPE	INTERVAL FROM	INTERVAL TO	BLOW COUNT 0" to 6"	6" to 12"	12" to 18"	REC (in)	USCS SOIL TYPE	WC (%)	qu (TSF)	LAYER DEPTH	SOIL DESCRIPTION AND REMARKS	PIEZO
													Asphalt. (Fill)	
	1	CS	0.5	2.0	15	21	22	12	SM			0.5	Dense, light brown, silty fine sand, moist,	
	2	CS	2.0	3.5	11	22	18	13	SM				trace of shells.	
5	3	CS	3.5	5.0	15	25	25	14	SM					
	4	CS	5.0	6.5	12	16	15	14	SM				saturated below 5.5 feet.	
	5	CS	6.5	8.0	7	7	17	14	SM					
	6	CS	8.0	9.5	5	6	10	15	SM					
10	7	CS	9.5	11.0	4	2	3	7	SM				some shells below 10.0 feet.	
	8	CS	11.0	12.5	12	14	21	15	SM			11.5	Dense, mottled gray orange brown, silty	
	9	CS	12.5	14.0	10	20	30	18	SM				fine sand, saturated, trace of clay.	
15	10	CS	14.0	15.5	15	15	15	13	SM				(Merritt Sand)	
												15.5	Bottom of Boring at 15.5 feet.	
20													Notes:	
25													1. Boring was advanced using 8-inch-diameter hollow stem augers.	
													2. Groundwater was encountered at 5.5 feet during drilling.	
													3. Sampler type: California Sampler (CS) O.D.: 2.5 inches I.D.: 2.0 inches	
30													4. Boring was backfilled with cement/ bentonite grout upon completion of drilling.	
35													5. OVA readings: a) 2 ppm at 9.5 feet. b) 2 ppm at 13.5 feet.	
40														

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Soil Boring Log

PROJECT No. 86-018-1804
BORING No. BOR-22
LOGGED BY RMD

PROJECT NAME: NAS Alameda - Phase 2A Site Investigations
BORING LOCATION: East of Building 530 in parking lot SURFACE ELEV. 114.0 feet
DRILLER: Spectrum Exploration - Garry Buss DATE: START 7/23/90 FINISH 7/23/90

DEPTH	SAMPLE No.	SAMPLE TYPE	INTERVAL FROM	INTERVAL TO	BLOW COUNT 0" to 6"	BLOW COUNT 6" to 12"	BLOW COUNT 12" to 18"	REC (in)	USCS SOIL TYPE	WC (%)	qu (TSF)	LAYER DEPTH	SOIL DESCRIPTION AND REMARKS	PIEZO
	1	CS	0.0	1.5	4	10	11	13	SM			0.3	Asphalt. (Fill)	
													Medium dense to dense, light brown, silty	
	2	CS	1.5	3.0	7	22	25	17	SM				fine sand, moist. (Fill)	
	3	CS	3.0	4.5	10	10	12	12	SM				shells at 2.0 feet.	
5														
	4	CS	4.5	6.0	7	16	18	14	SM				saturated below 5.3 feet.	
	5	CS	6.0	7.5	12	11	12	15	SM					
	6	CS	7.5	9.0	5	5	9	16	SM			8.0	Medium dense, gray brown, silty fine sand,	
10	7	CS	9.0	10.5	4	6	5	15	SM				saturated, some shells.	
	8	CS	10.5	12.0	3	1	1	16	SM-CL			11.0	Very soft, dark gray, silty clay, saturated.	
	9	CS	12.0	13.5	8	22	24	18	SM				(Bay Mud)	
												12.5	Dense, light orange brown-mottled gray	
15	10	CS	13.5	15.0	10	20	12	14	SM				green, clayey silty sand, sulphur type	
													odor, saturated. (Merritt Sand)	
												15.0	Bottom of Boring at 15.0 feet.	
													Notes:	
20														
													1. Boring was advanced using 8-inch-diameter hollow stem augers.	
													2. Groundwater was encountered at 5.3 feet during drilling.	
25														
													3. Sampler type:	
													California Sampler (CS)	
													O.D.: 2.5 inches	
													I.D.: 2.0 inches	
30														
													4. Boring was backfilled with cement/ bentonite grout upon completion of drilling.	
35														
													5. OVA readings: No OVA readings observed during drilling.	
40														

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Soil Boring Log

PROJECT No. 86-018-1804
BORING No. BOR-23
LOGGED BY BB

PROJECT NAME: NAS Alameda - Phase 2A Site Investigations
BORING LOCATION: East of Building 530 in parking lot SURFACE ELEV. 113.2 feet
DRILLER: Spectrum Exploration - Garry Buss DATE: START 7/20/90 FINISH 7/20/90

DEPTH	SAMPLE No.	TYPE	INTERVAL FROM	INTERVAL TO	BLOW COUNT 0" to 6"	BLOW COUNT 6" to 12"	BLOW COUNT 12" to 18"	REC (in)	USCS SOIL TYPE	WC (%)	qu (TSF)	LAYER DEPTH	SOIL DESCRIPTION AND REMARKS	PIEZO
												0.3	Asphalt. (Fill)	
	1	CS	0.5	2.0	15	20	30	15	SM				Very dense, light brown, silty fine sand, moist. (Fill)	
	2	CS	2.0	3.5	10	18	16	14	SM				rock fragments between 2.5 and 4.0 feet.	
5	3	CS	3.5	5.0	7	11	18	18	SM				shells below 4.0 feet.	
	4	CS	5.0	6.5	10	30	35	15	SM				saturated below 6.0 feet.	
	5	CS	6.5	8.0	10	15	25	7	SM					
	6	CS	8.0	9.5	10	15	11	12	SM			9.0	Medium dense, gray silty sand, saturated.	
10	7	CS	9.5	11.0	8	9	5	13	SM	SP/SM				
	8	CS	11.0	12.5	2	3	18	18	CL-SM			11.0	Medium dense, black, silty sandy clay,	
												12.0	saturated. (Bay Mud)	
	9	CS	12.5	14.0	5	15	10	12	SM				Medium dense, light orange brown, silty	
15	10	CS	14.0	15.5	12	13	14	18	SM				fine sand, saturated.	
												15.5	clayey sand layer between 12.0 and 12.5 feet.	
													some clay below 13.0 feet.	
													Bottom of Boring at 15.5 feet.	
20														
													Notes:	
													1. Boring was advanced using 8-inch-diameter hollow stem augers.	
25														
													2. Groundwater was encountered at 6.0 feet during drilling.	
													3. Sampler type: California Sampler (CS) O.D.: 2.5 inches I.D.: 2.0 inches	
30														
													4. Boring was backfilled with cement/ bentonite grout upon completion of drilling.	
35														
													5. OVA readings: a) 2 ppm at 9.0 feet	
40														

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Soil Boring Log

PROJECT No. 86-018-1804
BORING No. BOR-24
LOGGED BY RMD

PROJECT NAME: NAS Alameda - Phase 2A Site Investigations
BORING LOCATION: W side of Central Ave. inside storage yard SURFACE ELEV. 113.8 feet
DRILLER: Spectrum Exploration - Garry Buss DATE: START 7/19/90 FINISH 7/19/90

DEPTH	SAMPLE No.	SAMPLE TYPE	INTERVAL FROM	INTERVAL TO	BLOW COUNT 0" to 6"	BLOW COUNT 6" to 12"	BLOW COUNT 12" to 18"	REC (in)	USCS SOIL TYPE	WC (%)	qu (TSF)	LAYER DEPTH	SOIL DESCRIPTION AND REMARKS	PIEZO
												0.3	Asphalt. (Fill)	
	1	CS	0.5	2.0	22	15	20	8	SM				Dense, brown, silty fine sand. (Fill)	
	2	CS	2.0	3.5	8	9	12	13	SM				some granite gravel at 1.5 feet.	
													becomes medium dense at 2.0 feet.	
5	3	CS	3.5	5.0	3	4	4	16	SM				becomes loose at 3.5 feet.	
	4	CS	5.0	6.5	3	3	3	16	SM-SC			6.0	Loose, mottled orange brown and gray,	
													clayey fine sand, saturated, abundant	
	5	CS	6.5	8.0	3	4	5	14	SC				iron stains. (Merritt Sand)	
	6	CS	8.0	9.5	14	12	14	17	SC					
10														
	7	CS	9.5	11.0	8	8	8	17	SC					
	8	CS	11.0	12.5	3	9	16	18	SC-SM			12.0	Medium dense, orange brown, silty sand,	
													saturated, trace of clay. (Merritt Sand)	
	9	CS	12.5	14.0	3	9	16	15	SM					
15	10	CS	14.0	15.5	12	9	10	18	SM					
												15.5	Bottom of Boring at 15.5 feet.	
													Notes:	
20													1. Boring was advanced using 8-inch-diameter hollow stem augers.	
													2. Groundwater was encountered at 5.0 feet during drilling.	
25													3. Sampler type:	
													California Sampler (CS)	
													O.D.: 2.5 inches	
													I.D.: 2.0 inches	
30														
													4. Boring was backfilled with cement/ bentonite grout upon completion of drilling.	
35													5. OVA readings: No OVA readings observed during drilling.	
40														

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Soil Boring Log

PROJECT No. 86-018-1804
BORING No. BOR-25
LOGGED BY RMD

PROJECT NAME: NAS Alameda - Phase 2A Site Investigations
BORING LOCATION: SE of Building 530, W of Cans C2 Area SURFACE ELEV. 114.6 feet
DRILLER: Spectrum Exploration - Garry Buss DATE: START 7/20/90 FINISH 7/20/90

DEPTH	SAMPLE No.	TYPE	INTERVAL FROM	INTERVAL TO	BLOW COUNT 0" to 6"	BLOW COUNT 6" to 12"	BLOW COUNT 12" to 18"	REC (in)	USCS SOIL TYPE	WC (%)	qu (TSF)	LAYER DEPTH	SOIL DESCRIPTION AND REMARKS	PIEZO
	1	CS	0.0	1.5	21	24	27	14	SM			0.3	Asphalt. (Fill)	
													Dense, yellowish light brown, silty fine	
	2	CS	1.5	3.0	12	17	16	14	SM				sand, moist. (Fill)	
	3	CS	3.0	4.5	8	12	10	16	SM					
5														
	4	CS	4.5	6.0	10	20	15	18	SM			4.5	Dense, light brown, silty fine sand, moist,	
	5	CS	6.0	7.5	10	20	15	15	SM				with seashell fragments.	
													saturated below 5.5 feet.	
	6	CS	7.5	9.0	10	15	20	15	SM			8.0	Dense, gray, silty fine sand, saturated.	
10	7	CS	9.0	10.5	6	12	15	16	SM				becomes medium dense at 9.0 feet.	
	8	CS	10.5	12.0	2	3	5	15	SM				becomes loose at 10.5 feet.	
	9	CS	12.0	13.5	2	3	4	15	SM					
													color change to dark gray at 13.0 feet.	
15	10	CS	13.5	15.0	3	5	6	14	SM			13.8	Loose, orange brown mottled with gray,	
												15.0	silty fine sand, saturated. (Merritt Sand)	
													Bottom of Boring at 15.0 feet.	
													Notes:	
20														
													1. Boring was advanced using 8-inch-diameter hollow stem augers.	
													2. Groundwater was encountered at 5.5 feet during drilling.	
25														
													3. Sampler type:	
													California Sampler (CS)	
													O.D.: 2.5 inches	
													I.D.: 2.0 inches	
30														
													4. Boring was backfilled with cement/ bentonite grout upon completion of drilling.	
35														
													5. OVA readings: No OVA readings observed during drilling.	
40														

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Soil Boring Log

PROJECT No. 86-018-1804
BORING No. BOR-26
LOGGED BY RMD

PROJECT NAME: NAS Alameda - Phase 2A Site Investigations
BORING LOCATION: S of storage yard, N of Cans C2 Area SURFACE ELEV. 113.6 feet
DRILLER: Spectrum Exploration - Garry Buss DATE: START 7/24/90 FINISH 7/24/90

DEPTH	SAMPLE No.	SAMPLE TYPE	INTERVAL FROM	INTERVAL TO	BLOW COUNT 0" to 6"	BLOW COUNT 6" to 12"	BLOW COUNT 12" to 18"	REC (in)	USCS SOIL TYPE	WC (%)	qu (TSF)	LAYER DEPTH	SOIL DESCRIPTION AND REMARKS	PIEZO
													Asphalt/steel grate runway	
	1	CS	0.5	2.0	14	11	11	15	SM			0.5	Medium dense, light brown, silty fine sand,	
	2	CS	2.0	3.5	12	14	11	14	SM				moist. (Fill)	
													lenses of clay and gravel from 2.5 to	
5	3	CS	3.5	5.0	7	14	12	16	SM				3.5 feet.	
	4	CS	5.0	6.5	5	6	8	15	SM			5.5	Loose, gray, silty fine sand, saturated.	
	5	CS	6.5	8.0	2	3	5	15	SM					
	6	CS	8.0	9.5	2	3	4	16	SM					
10														
	7	CS	9.5	11.0	2	4	3	14	SM					
	8	CS	11.0	12.5	2	1	2	18	SM-SC			12.0	Loose, dark gray, clayey sand,	
													saturated, with pockets of silty clay.	
	9	CS	12.5	14.0	8	10	11	18	SM			12.5	Medium dense, black to dark gray, silty	
15	10	CS	14.0	15.5	7	12	12	7	SM				sand, saturated, some clay, some shells.	
												15.5	Bottom of Boring at 15.5 feet.	
													Notes:	
20													1. Boring was advanced using 8-inch-diameter hollow stem augers.	
													2. Groundwater was encountered at 5.0 feet during drilling.	
25													3. Sampler type:	
													California Sampler (CS)	
													O.D.: 2.5 inches	
													I.D.: 2.0 inches	
30														
													4. Boring was backfilled with cement/ bentonite grout upon completion of drilling.	
35													5. OVA readings: No OVA readings observed during drilling.	
40														

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Soil Boring Log

PROJECT No. 86-018-1804
BORING No. BOR-27
LOGGED BY RMD

PROJECT NAME: NAS Alameda - Phase 2A Site Investigations
BORING LOCATION: Northeast of Cans C2 area SURFACE ELEV. 114.3 feet
DRILLER: Spectrum Exploration - Garry Buss DATE: START 7/20/90 FINISH 7/20/90

DEPTH	SAMPLE No.	SAMPLE TYPE	SAMPLE INTERVAL FROM	SAMPLE INTERVAL TO	BLOW COUNT 0" to 6"	BLOW COUNT 6" to 12"	BLOW COUNT 12" to 18"	REC (in)	USCS SOIL TYPE	WC (%)	qu (TSF)	LAYER DEPTH	SOIL DESCRIPTION AND REMARKS	PIEZO
													Asphalt. (Fill)	
	1	CS	0.5	2.0	20	25	20	14	SM			0.3	Dense, light brown, silty fine sand, dry,	
	2	CS	2.0	3.5	10	12	14	14	SM				trace of seashell fragments. (Fill)	
													some fiberglass cloth debris at 0.5 feet.	
5	3	CS	3.5	5.0	9	9	12	15	SM				becomes medium dense at 2.0 feet.	
	4	CS	5.0	6.5	7	8	6	14	SM					
													saturated below 5.3 feet.	
	5	CS	6.5	8.0	5	7	6	16	SM			6.5	Medium dense, gray, brown, silty fine	
	6	CS	8.0	9.5	4	3	6	15	SM				sand, saturated.	
10														
	7	CS	9.5	11.0	4	5	6	18	SM					
	8	CS	11.0	12.5	2	3	4	16	SM					
	9	CS	12.5	14.0	2	2	2	16	CL			12.8	Soft, dark gray, silty clay, saturated.	
15	10	CS	14.0	15.0	3	3		0	SM			13.3	(Bay Mud)	
													Loose, gray, silty sand, saturated, with	
													trace of clay. (Soupy texture)	
												15.0	Bottom of Boring at 15.0 feet.	
20														
													Notes:	
													1. Boring was advanced using 8-inch-diameter hollow stem augers.	
25														
													2. Groundwater was encountered at 5.3 feet during drilling.	
													3. Sampler type: California Sampler (CS) O.D.: 2.5 inches I.D.: 2.0 inches	
30														
													4. Boring was backfilled with cement/ bentonite grout upon completion of drilling.	
35														
													5. OVA readings: No OVA readings observed during drilling.	
40														

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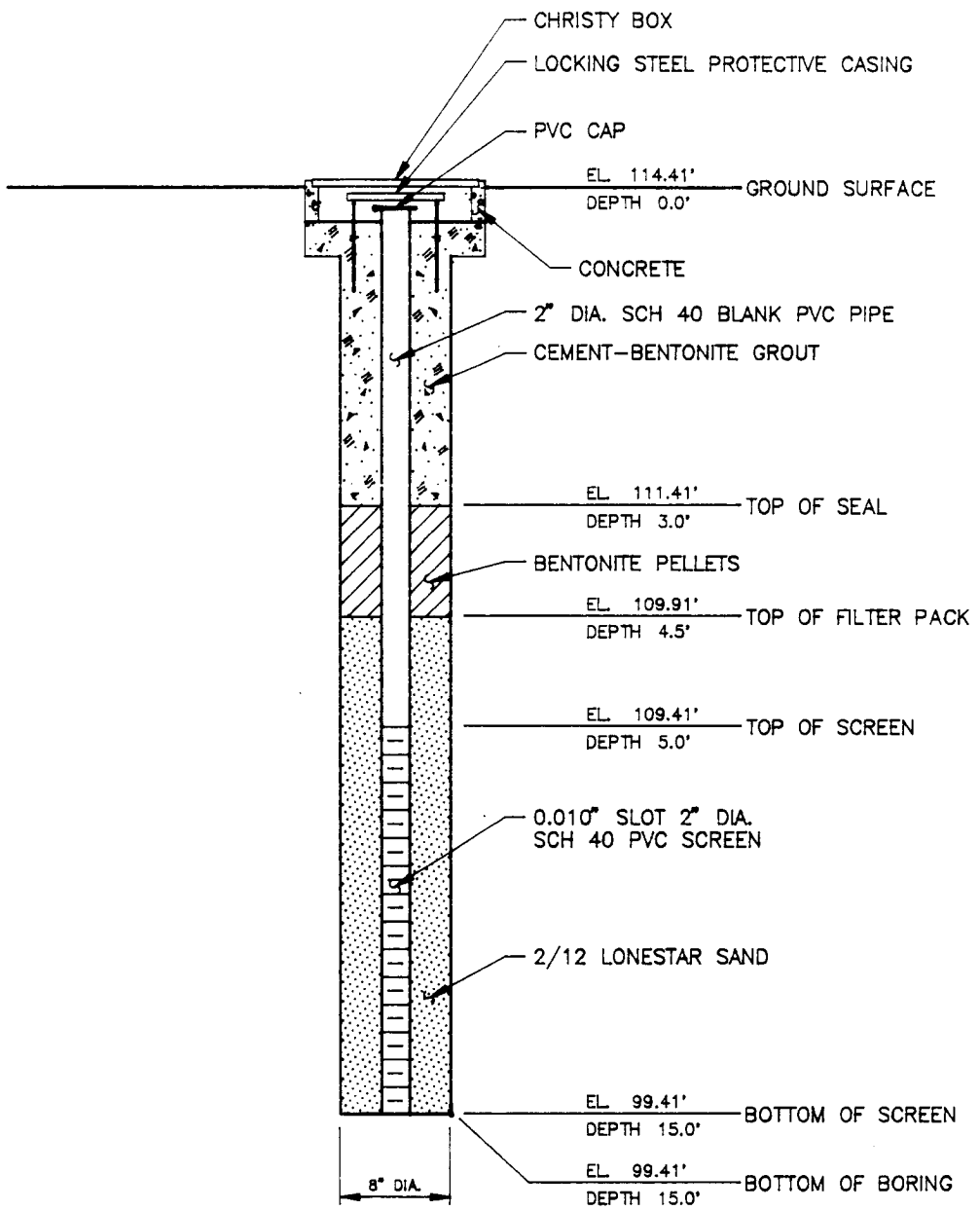
Monitoring Well Detail

PROJECT No. 86-018-1804

WELL No. MWOR-1

PROJECT NAME NAS ALAMEDA-PHASE 2A SITE INVESTIGATION

WELL LOCATION BUILDING 397, NORTHEAST CORNER DATE 7-16-90 BY RMD



NOTES:

1. NOT DRAWN TO SCALE.
2. SEE BORING LOG FOR DETAILED SOIL DESCRIPTION.

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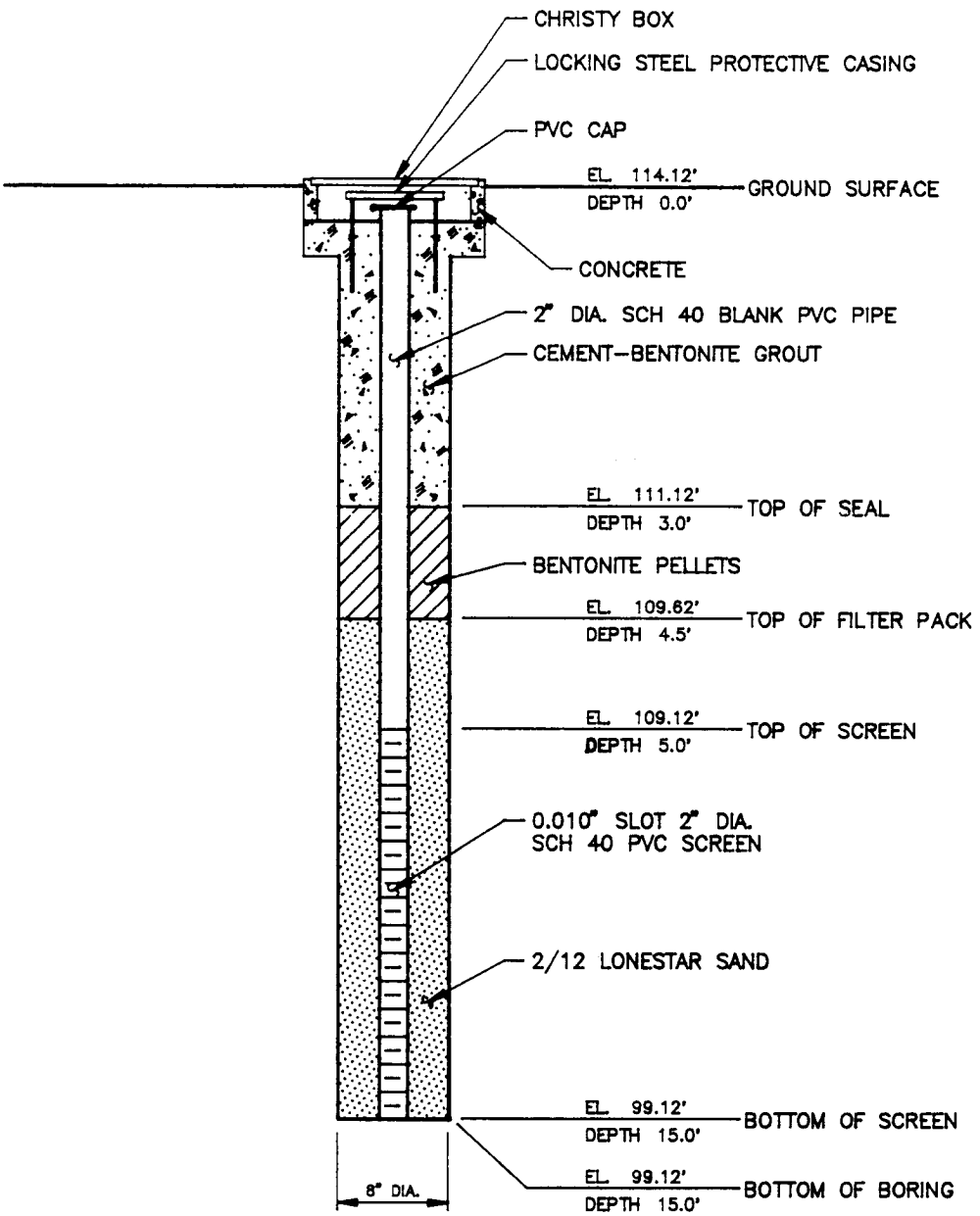
Monitoring Well Detail

PROJECT No. 86-018-1804

WELL No. MWOR-2

PROJECT NAME NAS ALAMEDA-PHASE 2A SITE INVESTIGATION

WELL LOCATION NORTHEAST CORNER OF 9TH ST. AND AVE. L DATE 7-17-90 BY BB



NOTES:

1. NOT DRAWN TO SCALE.
2. SEE BORING LOG FOR DETAILED SOIL DESCRIPTION.

Canonie

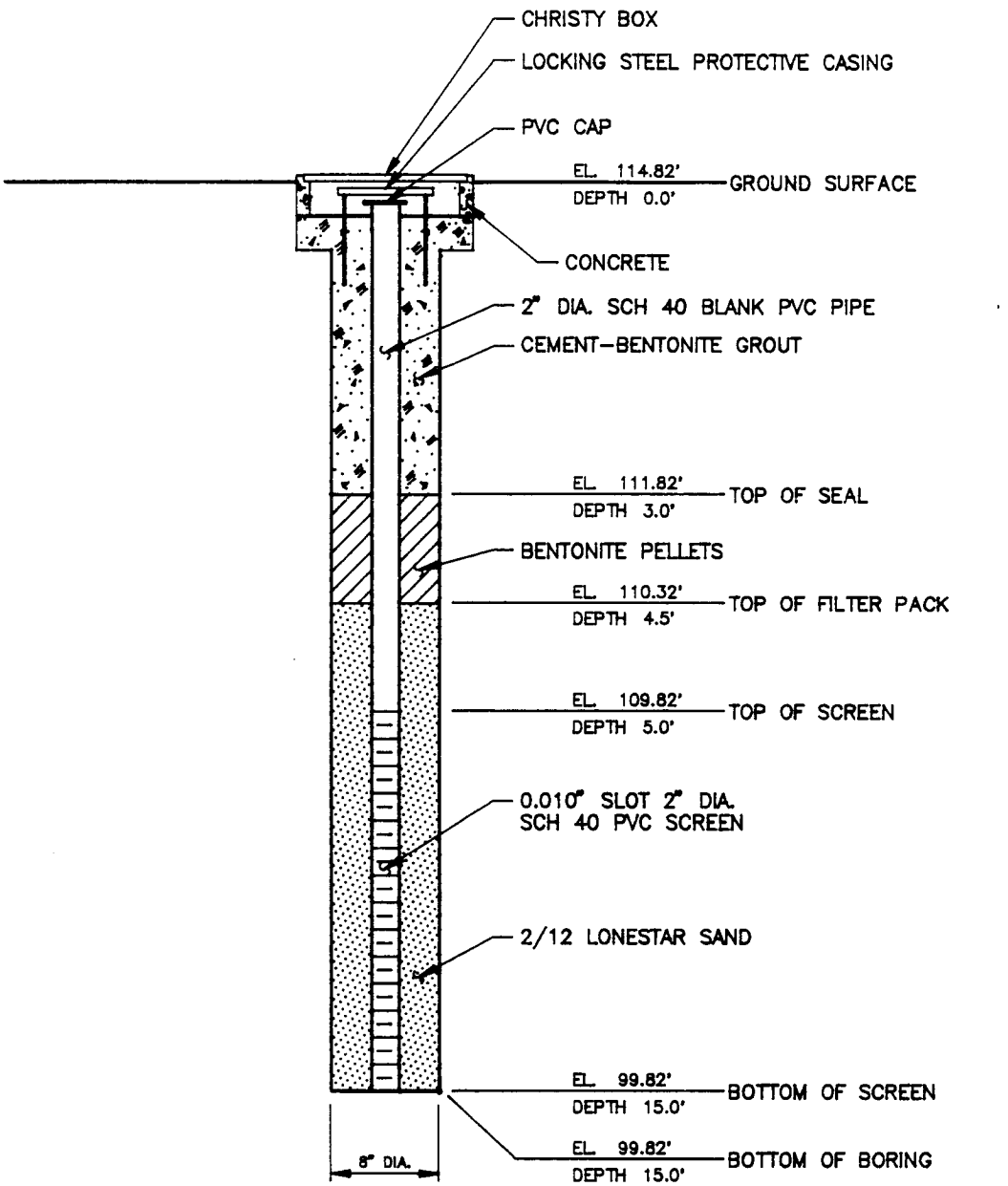
Monitoring Well Detail

PROJECT No. 86-018-1804

WELL No. MWOR-3

PROJECT NAME NAS ALAMEDA-PHASE 2A SITE INVESTIGATION

WELL LOCATION EAST OF 11TH STREET BETWEEN AVENUES K & L DATE 7-17-90 BY BB



NOTES:

1. NOT DRAWN TO SCALE.
2. SEE BORING LOG FOR DETAILED SOIL DESCRIPTION.

Canonie

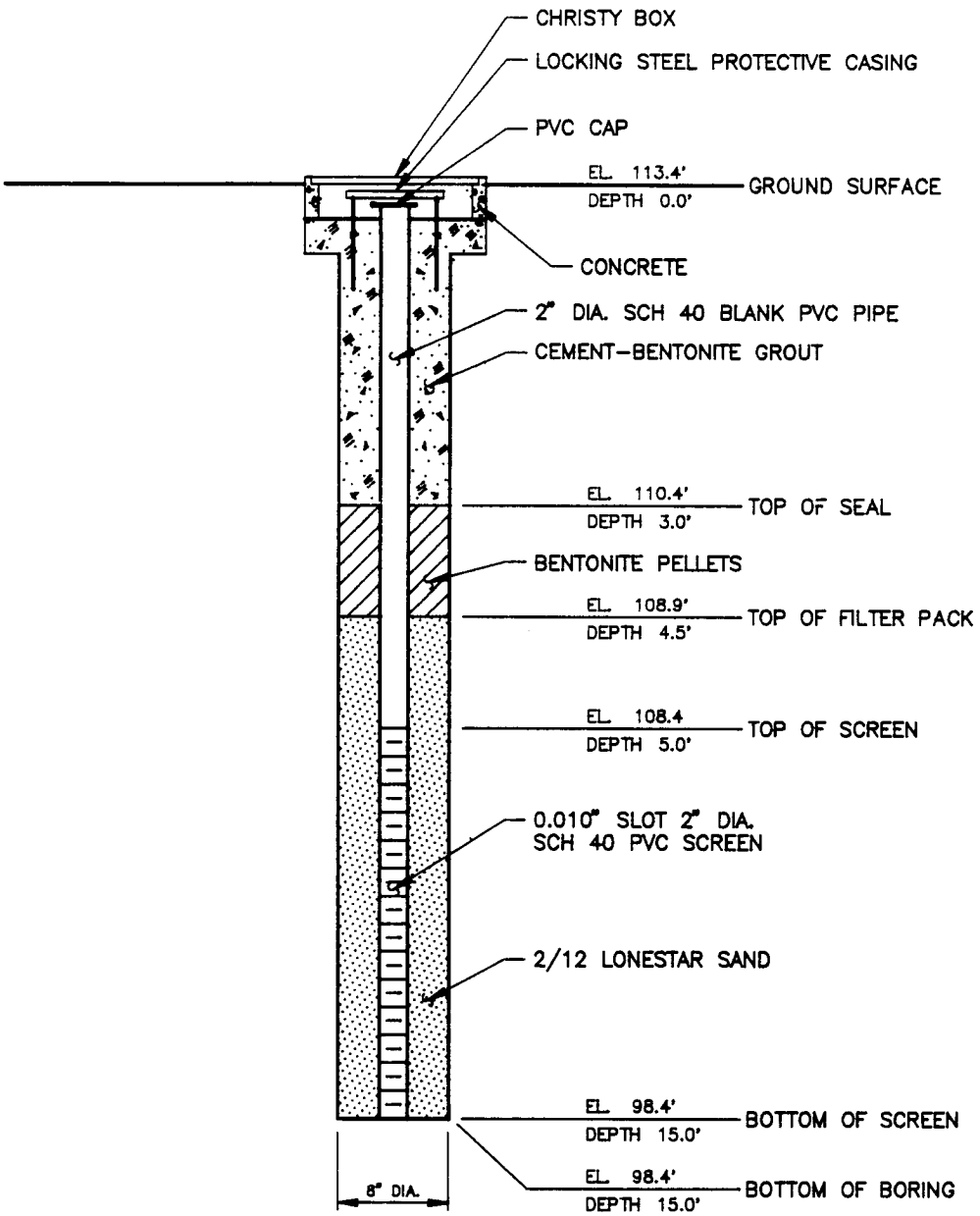
Monitoring Well Detail

PROJECT No. 86-018-1804

WELL No. MWOR-4

PROJECT NAME NAS ALAMEDA-PHASE 2A SITE INVESTIGATION

WELL LOCATION STORAGE AREA, BY EAST FENCE DATE 7-19-90 BY RMD



NOTES:

1. NOT DRAWN TO SCALE.
2. SEE BORING LOG FOR DETAILED SOIL DESCRIPTION.

Canonie

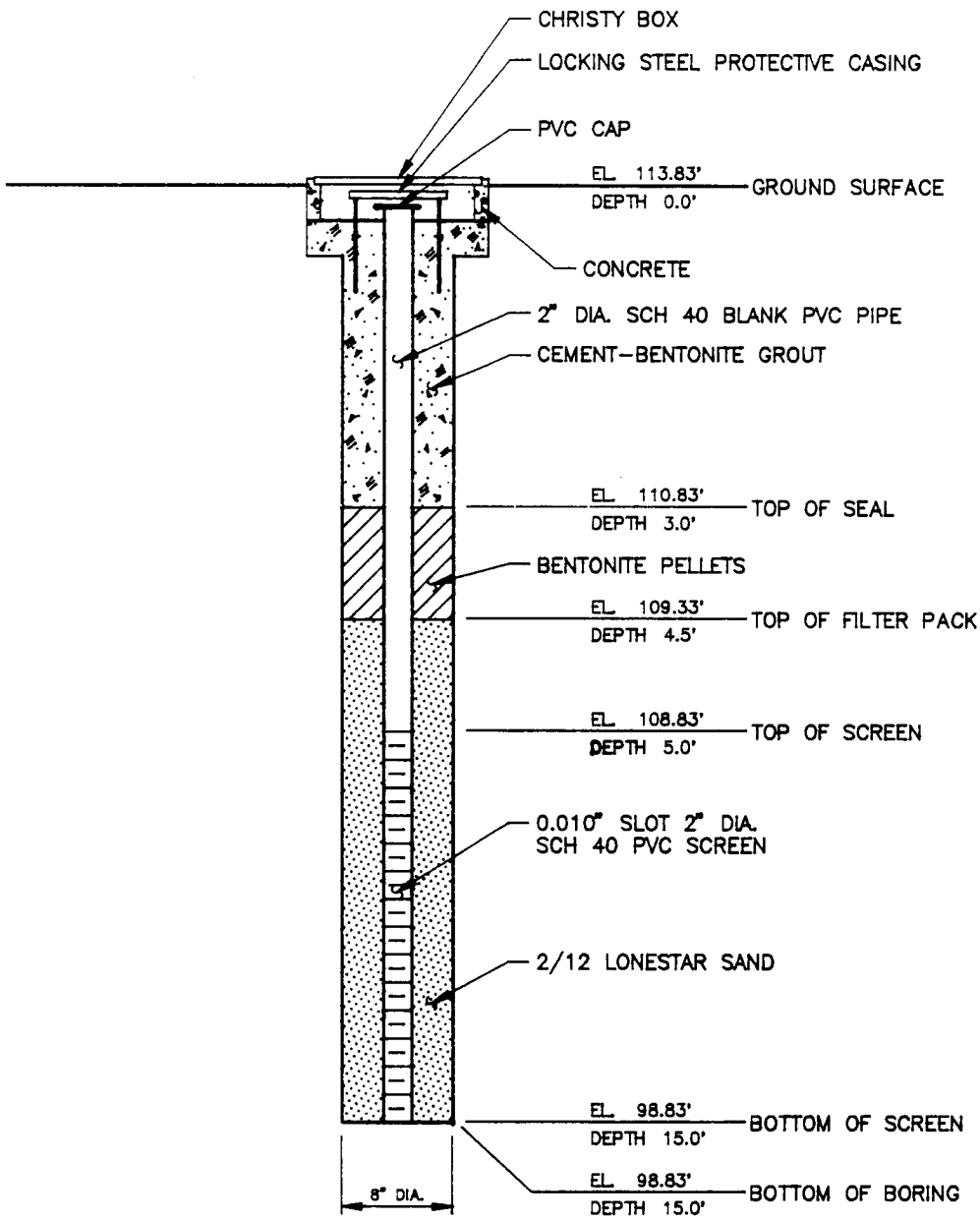
Monitoring Well Detail

PROJECT No. 86-018-1804

WELL No. MWOR-5

PROJECT NAME NAS ALAMEDA-PHASE 2A SITE INVESTIGATION

WELL LOCATION STORAGE AREA, SOUTHEAST CORNER BY FENCE DATE 7-19-90 BY BB



NOTES:

1. NOT DRAWN TO SCALE.
2. SEE BORING LOG FOR DETAILED SOIL DESCRIPTION.

APPENDIX G

CANS C-2 AREA
BORING LOGS AND MONITORING WELL
CONSTRUCTION DETAILS

Soil Boring Log

PROJECT No. 86-018-1804
BORING No. MWC2-1
LOGGED BY RMD

PROJECT NAME: NAS Alameda - Phase 2A Site Investigations
BORING LOCATION: North side of Cans C-2 by gate SURFACE ELEV. 113.41 feet
DRILLER: Spectrum Exploration - Garry Buss DATE: START 7/25/90 FINISH 7/25/90

DEPTH	SAMPLE No.	TYPE	INTERVAL FROM	INTERVAL TO	BLOW COUNT 0" to 6"	BLOW COUNT 6" to 12"	BLOW COUNT 12" to 18"	REC (in)	USCS SOIL TYPE	WC (%)	qu (TSF)	LAYER DEPTH	SOIL DESCRIPTION AND REMARKS	PIEZO
	1	CS	0.0	1.5	15	18	23	15	SM			0.3	Steel grate runway.	
													Dense, light brown, silty fine sand, moist.	
	2	CS	1.5	3.0	12	16	12	16	SM				(Fill)	
	3	CS	3.0	4.5	6	9	7	14	SM					
5													saturated below 4.5 feet.	
	4	CS	4.5	6.0	1	4	5	15	SM			5.5	Medium dense, gray brown, silty fine sand,	X
	5	CS	6.0	7.5	3	4	6	16	SM				saturated, some shells at 6.5 feet.	X
														X
	6	CS	7.5	9.0	3	7	8	15	SM					X
10	7	CS	9.0	10.5	5	4	4	16	SM				becomes loose at 9.0 feet.	X
												10.8	Loose, black to dark gray, silty fine sand,	X
	8	CS	10.5	12.0	3	4	5	18	SM				saturated, with white shells, abundant	X
	9	CS	12.0	13.5	4	6	8	7	SM				silt.	X
													becomes medium dense at 12.5 feet.	X
15	10	CS	13.5	15.0	3	5	8	0	SM					X
												15.0	Bottom of Boring at 15.0 feet.	
													Notes:	
20													1. Boring was advanced using 8-inch-diameter hollow stem augers.	
													2. Groundwater was encountered at 4.5 feet during drilling.	
25													3. Sampler type: California Sampler (CS) O.D.: 2.5 inches I.D.: 2.0 inches	
30													4. Boring was converted to a monitoring well upon completion of drilling.	
													5. OVA readings: a) 5 ppm at 10.0 feet.	
35														
40														

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Soil Boring Log

PROJECT No. 86-018-1804
BORING No. MWC2-2
LOGGED BY RMD

PROJECT NAME: NAS Alameda - Phase 2A Site Investigations
BORING LOCATION: West of Cans C-2 outside fence line SURFACE ELEV. 114.79 feet
DRILLER: Spectrum Exploration - Garry Buss DATE: START 7/24/90 FINISH 7/24/90

DEPTH	SAMPLE No.	TYPE	INTERVAL FROM	INTERVAL TO	BLOW COUNT 0" to 6"	BLOW COUNT 6" to 12"	BLOW COUNT 12" to 18"	REC (in)	USCS SOIL TYPE	WC (%)	qu (TSF)	LAYER DEPTH	SOIL DESCRIPTION AND REMARKS	PIEZO
													Asphalt. (Fill)	
	1	CS	0.5	2.0	24	24	30	14	SM			0.5	Very dense, light brown, silty fine sand,	
	2	CS	2.0	3.5	12	26	23	15	SM				moist. (Fill)	
													pockets of clay and gravel from 0.5 to	
5	3	CS	3.5	5.0	5	11	12	14	SM				1.5 feet.	
	4	CS	5.0	6.5	3	8	7	14	SM				becomes medium dense at 3.5 feet.	X
													becomes saturated at 5.5 feet.	X
	5	CS	6.5	8.0	9	7	7	18	SM				color change to gray at 7.5 feet.	X
	6	CS	8.0	9.5	5	3	5	14	SM				becomes loose at 8.0 feet.	X
10												9.5	Very loose to loose, grayish brown, silty	X
	7	CS	9.5	11.0	1	1	1	15	SM				fine sand, saturated, with shell fragments	X
	8	CS	11.0	12.5	2	5	3	14	SM				increase in silt content below 10.0 feet.	X
													Loose, black to dark gray, silty fine sand,	X
	9	CS	12.5	14.0	1	2	2	15	SM			13.8	saturated, with shells.	X
15	10	CS	14.0	15.5	4	6	4	15	SM			14.3	Loose, greenish gray, silty fine sand,	X
													saturated, with few shells.	
												15.5		
													Bottom of Boring at 15.5 feet.	
20														
													Notes:	
													1. Boring was advanced using 8-inch-diameter hollow stem augers.	
													2. Groundwater was encountered at 5.5 feet during drilling.	
25													3. Sampler type: California Sampler (CS) O.D.: 2.5 inches I.D.: 2.0 inches	
30													4. Boring was converted to a monitoring well upon completion of drilling.	
35													5. OVA readings: a) 2-5 ppm at 14.5 feet.	
40														

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Soil Boring Log

PROJECT No. 86-018-1804
BORING No. MWC2-3
LOGGED BY RMD

PROJECT NAME: NAS Alameda - Phase 2A Site Investigations
BORING LOCATION: South boundary of Cans C-2 area SURFACE ELEV. 112.43 feet
DRILLER: Spectrum Exploration - Garry Buss DATE: START 7/25/90 FINISH 7/25/90

DEPTH	SAMPLE No.	TYPE	INTERVAL FROM	INTERVAL TO	BLOW COUNT 0" to 6"	BLOW COUNT 6" to 12"	BLOW COUNT 12" to 18"	REC (in)	USCS SOIL TYPE	WC (%)	qu (TSF)	LAYER DEPTH	SOIL DESCRIPTION AND REMARKS	PIEZO
													Asphalt. (Fill)	
	1	CS	0.5	2.0	20	45	5	8	SM			0.5	Dense, orangish brown, silty fine sand,	
	2	CS	2.0	3.0	4	10		0	SM-GP			2.0	with some gravel, moist. (Fill)	
												3.0	Cobbles. (Fill)	
5	3	CS	3.0	4.5	4	6	8	14	SM				Medium dense, light brown, silty fine sand,	
	4	CS	4.5	6.0	1	1	1	15	SM				moist, with shells.	X
												5.0	Loose, gray, silty fine sand, saturated,	X
	5	CS	6.0	7.5	1	2	2	16	SM				with shells.	X
	6	CS	7.5	9.0	2	2	2	13	SM					X
10													no shells noted below 9.0 feet.	X
	7	CS	9.0	10.5	3	5	5	12	SM					X
	8	CS	10.5	12.0	4	7	8	9	SM			10.5	Medium dense, dark gray, silty fine sand,	X
													saturated, trace of clay.	X
	9	CS	12.0	13.5	4	8	8	8	SM				running sands noted during sampling.	X
15	10	CS	13.5	15.0	4	8	9	0	SM					X
												15.0	Bottom of Boring at 15.0 feet.	
													Notes:	
20													1. Boring was advanced using 8-inch-diameter hollow stem augers.	
													2. Groundwater was encountered at 5.0 feet during drilling.	
25													3. Sampler type: California Sampler (CS) O.D.: 2.5 inches I.D.: 2.0 inches	
30													4. Boring was converted to a monitoring well upon completion of drilling.	
35													5. OVA readings: No OVA readings observed during drilling.	
40														

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Soil Boring Log

PROJECT No. 86-018-1804
BORING No. BC2-4
LOGGED BY RMD

PROJECT NAME: NAS Alameda - Phase 2A Site Investigations
BORING LOCATION: Northwest corner of Cans C-2 area SURFACE ELEV. 113.8 feet
DRILLER: Spectrum Exploration - Garry Buss DATE: START 7/24/90 FINISH 7/24/90

DEPTH	SAMPLE No.	SAMPLE TYPE	INTERVAL FROM	INTERVAL TO	BLOW COUNT 0" to 6"	BLOW COUNT 6" to 12"	BLOW COUNT 12" to 18"	REC (in)	USCS SOIL TYPE	WC (%)	qu (TSF)	LAYER DEPTH	SOIL DESCRIPTION AND REMARKS	PIEZO
	1	CS	0.0	1.5	15	21	12	15	SM			0.3	Steel grate runway.	
													Dense, light brown, silty fine sand, moist. (Fill)	
	2	CS	1.5	3.0	11	23	14	16	SM					
	3	CS	3.0	4.5	6	9	8	16	SM				becomes medium dense at 3.0 feet.	
5													concrete at 5.0 feet.	
	4	CS	4.5	6.0	11	9	7	15	SM			5.0	Medium dense, light brownish gray, silty fine sand, saturated, with shells.	
	5	CS	6.0	7.5	6	7	5	15	SM					
	6	CS	7.5	9.0	3	5	5	16	SM					
10	7	CS	9.0	10.5	3	15	25	15	SM				becomes dense at 9.5 feet.	
													becomes loose at 10.5 feet.	
	8	CS	10.5	12.0	3	4	5	16	SM					
	9	CS	12.0	13.5	3	4	6	17	ML			12.0	Soft to medium stiff, dark gray, clayey silt, saturated, with some organic matter, trace of shell fragments and thin lenses of clayey fine sand. (Bay Mud)	
15	10	CS	13.5	15.0	8	4	7	9	ML			15.0		
													Bottom of Boring at 15.0 feet.	
													Notes:	
20													1. Boring was advanced using 8-inch-diameter hollow stem augers.	
													2. Groundwater was encountered at 5.0 feet during drilling.	
25													3. Sampler type: California Sampler (CS) O.D.: 2.5 inches I.D.: 2.0 inches	
													4. Boring was backfilled with cement/ bentonite grout upon completion of drilling.	
30													5. OVA readings: No OVA readings observed during drilling.	
35														
40														

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Soil Boring Log

PROJECT No. 86-018-1804
BORING No. BC2-5
LOGGED BY RMD

PROJECT NAME: NAS Alameda - Phase 2A Site Investigations
BORING LOCATION: West yard in Cans C-2 area SURFACE ELEV. 114.2 feet
DRILLER: Spectrum Exploration - Garry Buss DATE: START 7/24/90 FINISH 7/24/90

DEPTH	SAMPLE No.	TYPE	INTERVAL FROM	INTERVAL TO	BLOW COUNT 0"	6"	12"	REC (in)	USCS SOIL TYPE	WC (%)	qu (TSF)	LAYER DEPTH	SOIL DESCRIPTION AND REMARKS	PIEZO
	1	CS	0.0	1.5	10	16	7	15	SM			0.3	Steel grate runway.	
													Medium dense, light brown, silty fine sand,	
	2	CS	1.5	3.0	7	25	22	16	SM-SC			2.0	moist. (Fill)	
	3	CS	3.0	4.5	25	18	17	15	GP-SM			3.3	Dense, light brown, clayey fine sand,	
5												3.8	moist. (Fill)	
	4	CS	4.5	6.0	5	7	9	13	SM				Dense, brown, sandy gravel, moist. (Fill)	
	5	CS	6.0	7.5	5	5	5	16	SM				Medium dense, light brown, silty fine sand,	
													moist. (Fill)	
	6	CS	7.5	9.0	2	5	5	14	SM			8.0	saturated below 5.0 feet.	
10	7	CS	9.0	10.5	2	3	3	15	SM				color change to gray brown at 6.0 feet.	
													Loose to medium dense, gray brown,	
	8	CS	10.5	12.0	10	16	18	16	SM				silty fine sand, saturated, with shells.	
	9	CS	12.0	13.5	3	5	5	17	SM				becomes dense at 11.0 feet with slight	
													color change and fewer shells.	
15	10	CS	13.5	15.0	4	4	6	15	SM				becomes medium dense at 12.0 feet.	
												15.0	thin lens of silty clay (Bay Mud) at 13.0	
													feet.	
													color change to dark gray at 13.5 feet.	
20													Bottom of Boring at 15.0 feet.	
													Notes:	
													1. Boring was advanced using 8-inch-diameter hollow stem augers.	
25														
													2. Groundwater was encountered at 5.0 feet during drilling.	
30													3. Sampler type: California Sampler (CS) O.D.: 2.5 inches I.D.: 2.0 inches	
													4. Boring was backfilled with cement/ bentonite grout upon completion of drilling.	
35														
													5. OVA readings: No OVA readings observed during drilling.	
40														

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Soil Boring Log

PROJECT No. 86-018-1804
BORING No. BC2-6
LOGGED BY BB

PROJECT NAME: NAS Alameda - Phase 2A Site Investigations
BORING LOCATION: North portion of Cans C-2 area SURFACE ELEV. 114.5 feet
DRILLER: Spectrum Exploration - Garry Buss DATE: START 7/25/90 FINISH 7/25/90

DEPTH	SAMPLE No.	TYPE	INTERVAL FROM	INTERVAL TO	BLOW COUNT 0" to 6"	BLOW COUNT 6" to 12"	BLOW COUNT 12" to 18"	REC (in)	USCS SOIL TYPE	WC (%)	qu (TSF)	LAYER DEPTH	SOIL DESCRIPTION AND REMARKS	PIEZO
	1	CS	0.0	1.5	25	25	14	13	SM			0.3	Asphalt and steel grate runway. (Fill)	
													Dense, light brown, silty fine sand, moist.	
	2	CS	1.5	3.0	4	8	15	14	SM-CH			2.0	(Fill)	
	3	CS	3.0	4.5	10	17	15	15	SC			2.5	becomes medium dense at 1.5 feet.	
5												3.5	Stiff, light brown, silty clay, moist. (Fill)	
	4	CS	4.5	6.0	8	14	12	15	SM				Medium dense, light brown silty fine sand	
	5	CS	6.0	7.5	3	7	7	15	SM			6.0	moist. (Fill)	
													Dense, orange brown, silty fine sand,	
	6	CS	7.5	9.0	7	8	10	15	SM				moist, with shells.	
10	7	CS	9.0	10.5	5	5	4	15	SM				Medium dense, gray brown, silty fine sand, saturated, with trace of shells.	
	8	CS	10.5	12.0	3	3	4	15	SM			11.0	increase in silt content below 8.0 feet.	
	9	CS	12.0	13.5	5	5	9	18	SM				Loose to medium dense, gray brown, silty	
													fine sand, saturated, some pockets of	
15	10	CS	13.5	15.0	4	6	7	9	SM				lean clay.	
												15.0		
													Bottom of Boring at 15.0 feet.	
													Notes:	
20													1. Boring was advanced using 8-inch-diameter hollow stem augers.	
													2. Groundwater was encountered at 5.0 feet during drilling.	
25													3. Sampler type: California Sampler (CS) O.D.: 2.5 inches I.D.: 2.0 inches	
30													4. Boring was backfilled with cement/ bentonite grout upon completion of drilling.	
35													5. OVA readings: No OVA readings observed during drilling.	
40														

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Soil Boring Log

PROJECT No. 86-018-1804
BORING No. BC2-7
LOGGED BY RMD

PROJECT NAME: NAS Alameda - Phase 2A Site Investigations
BORING LOCATION: Southside corner of Cans C-2 area SURFACE ELEV. 114.3 feet
DRILLER: Spectrum Exploration - Garry Buss DATE: START 7/24/90 FINISH 7/24/90

DEPTH	SAMPLE No.	TYPE	INTERVAL FROM	INTERVAL TO	BLOW COUNT 0" to 6"	BLOW COUNT 6" to 12"	BLOW COUNT 12" to 18"	REC (in)	USCS SOIL TYPE	WC (%)	qu (TSF)	LAYER DEPTH	SOIL DESCRIPTION AND REMARKS	PIEZO
	1	CS	0.0	1.5	15	25	26	15	SM			0.3	Steel grate runway.	
													Dense, light brown, silty fine sand, dry. (Fill)	
	2	CS	1.5	3.0	12	10	9	15	SM				becomes medium dense at 1.5 feet.	
	3	CS	3.0	4.5	6	10	12	16	SM				saturated below 4.8 feet.	
5														
	4	CS	4.5	6.0	2	8	8	14	SM					
	5	CS	6.0	7.5	6	4	6	15	SM			6.3		
													Loose, grayish brown, silty fine sand, saturated.	
	6	CS	7.5	9.0	3	4	2	15	SM				thin lens of clay at 9.5 feet.	
10	7	CS	9.0	10.5	4	4	4	15	SM					
												10.0	Loose, greenish gray, silty fine sand, saturated, with clay lenses.	
	8	CS	10.5	12.0	3	3	2	14	SM				color change to dark gray to black at 11.0 feet, some pockets of clayey sand,	
	9	CS	12.0	13.5	2	4	4	10	SM				some shells below 12.5 feet.	
15	10	CS	13.5	15.0	5	5	6	16	SM			15.0	Bottom of Boring at 15.0 feet.	
													Notes:	
20													1. Boring was advanced using 8-inch-diameter hollow stem augers.	
													2. Groundwater was encountered at 4.8 feet during drilling.	
25													3. Sampler type: California Sampler (CS) O.D.: 2.5 inches I.D.: 2.0 inches	
30													4. Boring was backfilled with cement/ bentonite grout upon completion of drilling.	
35													5. OVA readings: No OVA readings observed during drilling.	
40														

Canonie Environmental

Soil Boring Log

PROJECT No. 86-018-1804
BORING No. BC2-8
LOGGED BY RMD

PROJECT NAME: NAS Alameda - Phase 2A Site Investigations
BORING LOCATION: Southwest corner of Cans C-2 area SURFACE ELEV. 113.6 feet
DRILLER: Spectrum Exploration - Garry Buss DATE: START 7/25/90 FINISH 7/25/90

DEPTH	SAMPLE No.	TYPE	INTERVAL FROM	INTERVAL TO	BLOW COUNT 0" to 6"	6" to 12"	12" to 18"	REC (in)	USCS SOIL TYPE	WC (%)	qu (TSF)	LAYER DEPTH	SOIL DESCRIPTION AND REMARKS	PIEZO
	1	CS	0.0	1.5	15	20	25	17	SM			0.3	Steel grate runway.	
													Dense, light brown, silty fine sand, moist. (Fill)	
	2	CS	1.5	3.0	6	20	16	15	SM					
	3	CS	3.0	4.5	5	10	11	15	SM				becomes medium dense at 3.0 feet.	
5													saturated below 4.8 feet.	
	4	CS	4.5	6.0	5	8	7	16	SM				color change to gray brown at 4.8 feet.	
	5	CS	6.0	7.5	4	10	17	14	SM				becomes loose at 7.5 feet.	
													increase in silt content below 8.0 feet.	
	6	CS	7.5	9.0	2	2	2	13	SM					
10	7	CS	9.0	10.5	5	7	9	15	SM			9.0	Medium dense, brown mottled gray, silty fine sand, saturated, with trace of clay, small shell fragments.	
	8	CS	10.5	12.0	2	2	2	15	SM					
	9	CS	12.0	13.5	2	7	7	18	SM			12.0	becomes loose at 10.5 feet.	
													Medium dense, dark gray, silty fine sand, saturated, trace of clay, some shells.	
15	10	CS	13.5	15.0	5	8	8	17	SM			15.0	Bottom of Boring at 15.0 feet.	
													Notes:	
20													1. Boring was advanced using 8-inch-diameter hollow stem augers.	
													2. Groundwater was encountered at 4.8 feet during drilling.	
25													3. Sampler type: California Sampler (CS) O.D.: 2.5 inches I.D.: 2.0 inches	
30													4. Boring was backfilled with cement/ bentonite grout upon completion of drilling.	
35													5. OVA readings: No OVA readings observed during drilling.	
40														

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Soil Boring Log

PROJECT No. 86-018-1804
BORING No. BC2-9
LOGGED BY BB

PROJECT NAME: NAS Alameda - Phase 2A Site Investigations
BORING LOCATION: In lot in SW corner of Cans C-2 area SURFACE ELEV. 113.0 feet
DRILLER: Spectrum Exploration - Garry Buss DATE: START 7/25/90 FINISH 7/25/90

DEPTH	SAMPLE No.	TYPE	INTERVAL FROM	INTERVAL TO	BLOW COUNT 0" 6"	BLOW COUNT 6" 12"	BLOW COUNT 12" 18"	REC (in)	USCS SOIL TYPE	WC (%)	qu (TSF)	LAYER DEPTH	SOIL DESCRIPTION AND REMARKS	PIEZO
	1	CS	0.0	1.5	14	25	32	15	SM			0.3	Steel grate runway.	
													Very dense, light brown, silty fine sand,	
	2	CS	1.5	3.0	15	19	20	15	SM				moist. (Fill)	
	3	CS	3.0	4.5	7	6	7	16	SM				becomes dense at 2.0 feet.	
5													becomes medium dense at 3.0 feet.	
	4	CS	4.5	6.0	10	12	12	16	SM			5.0	Medium dense, brown gray, silty fine	
	5	CS	6.0	7.5	9	9	10	15	SM				sand, saturated, abundant silt.	
	6	CS	7.5	9.0	9	5	3	13	SM				becomes loose at 8.0 feet.	
10	7	CS	9.0	10.5	5	5	5	12	SM					
	8	CS	10.5	12.0	8	3	4	12	SM			11.0	Medium dense, dark gray, silty sand,	
	9	CS	12.0	13.5	2	3	5	14	SM				saturated, some thin pockets of clayey	
													sand, shells, and wood fragments.	
15	10	CS	13.5	15.0	6	8	9	8	SM				becomes medium dense at 13.5 feet.	
												15.0	Bottom of Boring at 15.0 feet.	
													Notes:	
20													1. Boring was advanced using 8-inch-diameter hollow stem augers.	
													2. Groundwater was encountered at 5.0 feet during drilling.	
25													3. Sampler type:	
													California Sampler (CS)	
													O.D.: 2.5 inches	
													I.D.: 2.0 inches	
30														
													4. Boring was backfilled with cement/ bentonite grout upon completion of drilling.	
													5. OVA readings:	
35													a) 2-5 ppm at 11.5 feet.	
													b) 10 ppm at 13.5 feet.	
40														

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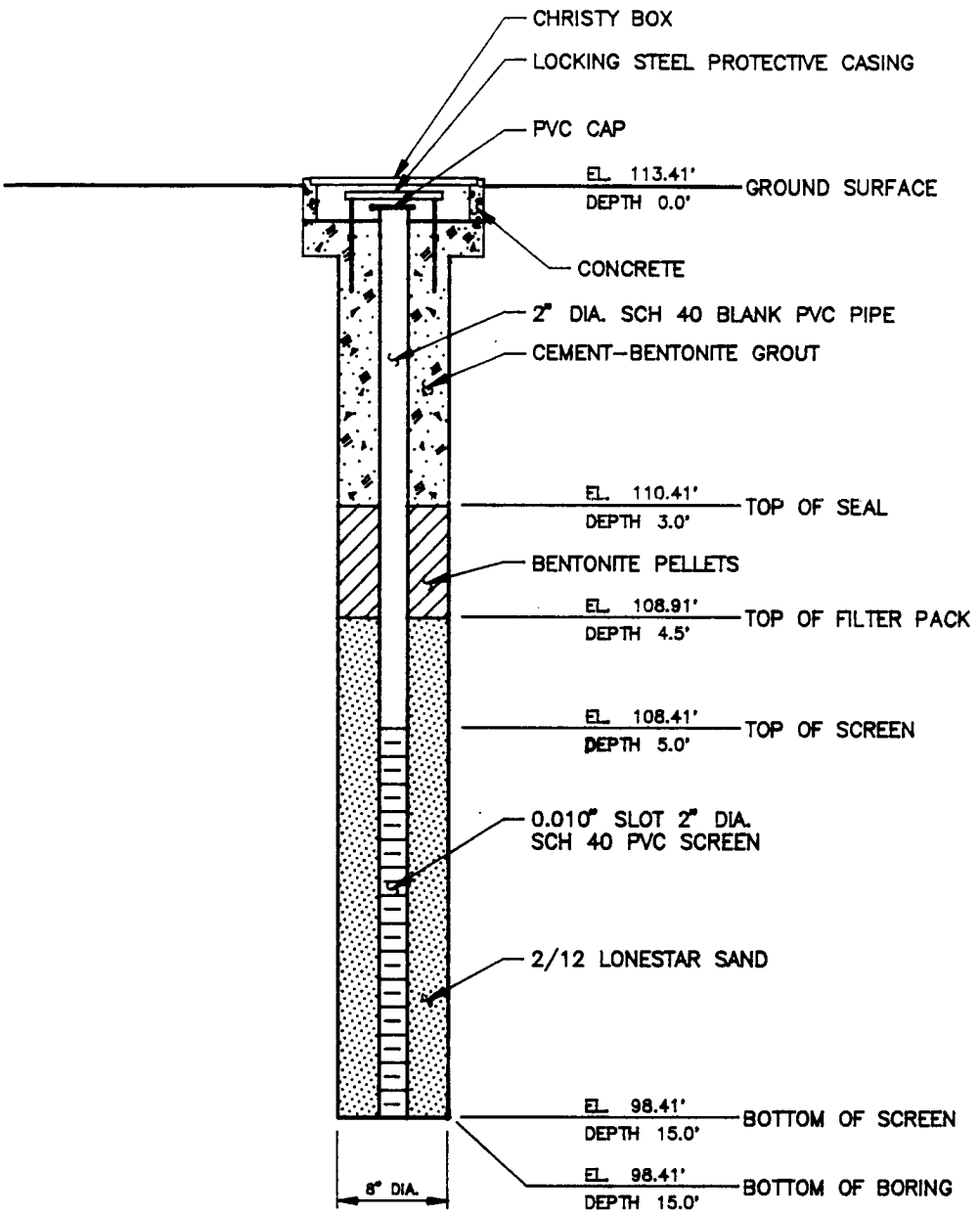
Monitoring Well Detail

PROJECT No. 86-018-1804

WELL No. MWC2-1

PROJECT NAME NAS ALAMEDA-PHASE 2A SITE INVESTIGATION

WELL LOCATION CANS C2, NORTH SIDE, BY GATE DATE 7-25-90 BY RMD



NOTES:

1. NOT DRAWN TO SCALE.
2. SEE BORING LOG FOR DETAILED SOIL DESCRIPTION.

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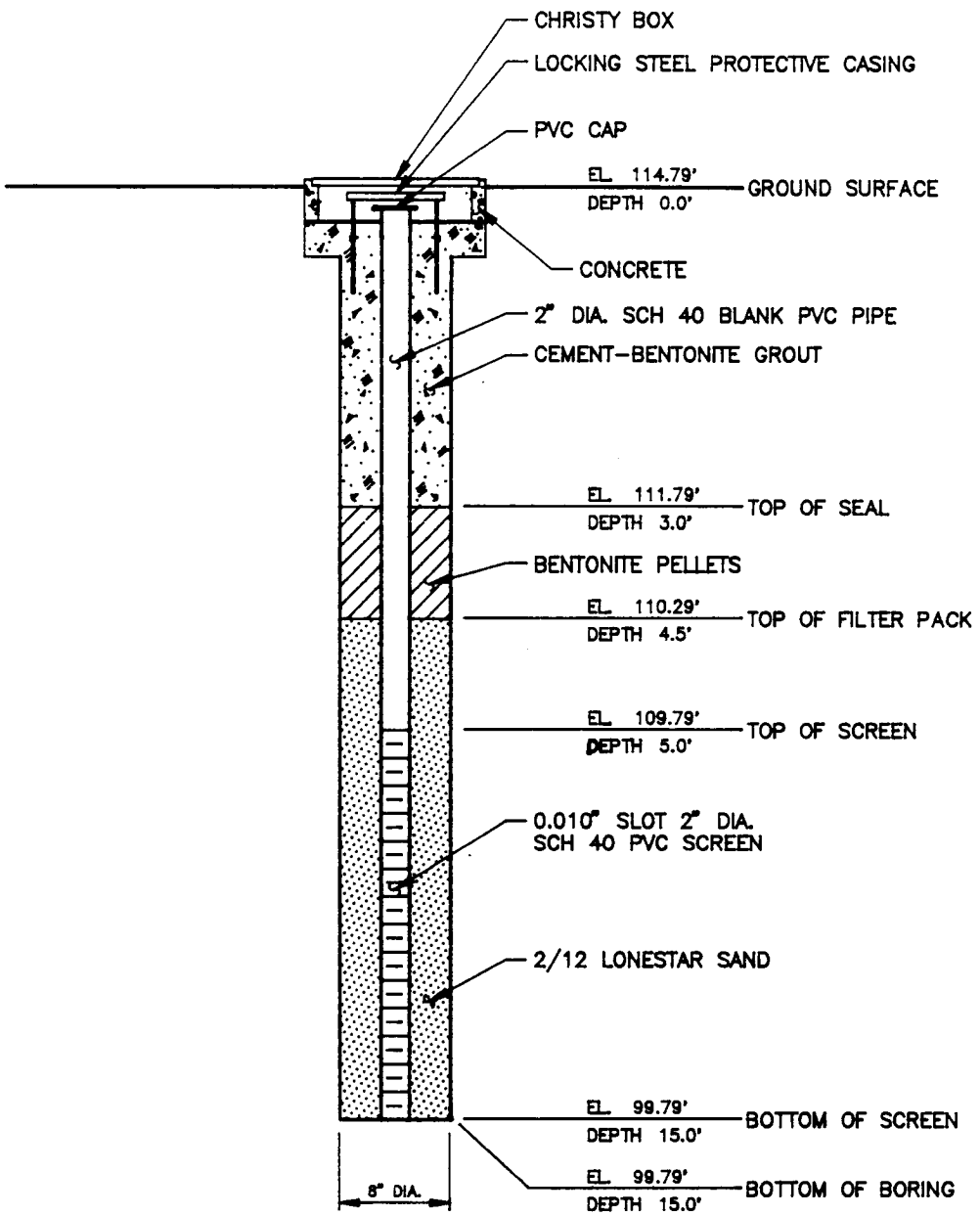
Monitoring Well Detail

PROJECT No. 86-018-1804

WELL No. MWC2-2

PROJECT NAME NAS ALAMEDA-PHASE 2A SITE INVESTIGATION

WELL LOCATION CANS C-2, WEST SIDE, OUTSIDE FENCE DATE 7-24-90 BY RMD



NOTES:

1. NOT DRAWN TO SCALE.
2. SEE BORING LOG FOR DETAILED SOIL DESCRIPTION.

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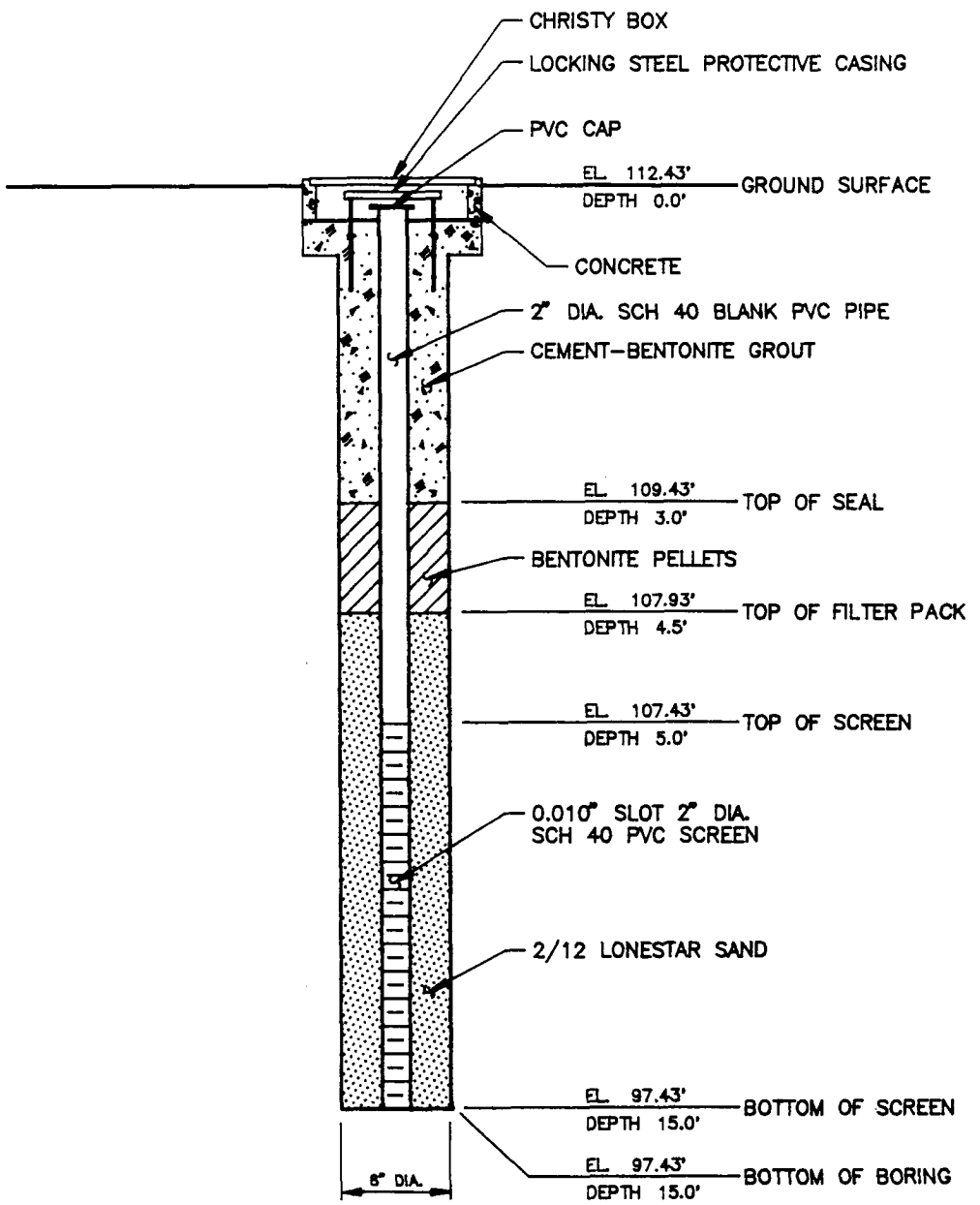
Monitoring Well Detail

PROJECT No. 86-018-1804

WELL No. MWC2-3

PROJECT NAME NAS ALAMEDA-PHASE 2A SITE INVESTIGATION

WELL LOCATION CANS C-2, SOUTH SIDE, OUTSIDE FENCE DATE 7-25-90 BY RMD



NOTES:

1. NOT DRAWN TO SCALE.
2. SEE BORING LOG FOR DETAILED SOIL DESCRIPTION.

APPENDIX H

AREA 97
BORING LOGS AND MONITORING WELL
CONSTRUCTION DETAILS

Soil Boring Log

PROJECT No. 86-018-1804
BORING No. MW97-1
LOGGED BY RMD

PROJECT NAME: NAS Alameda - Phase 2A Site Investigations
BORING LOCATION: West of McDonald's Restaurant SURFACE ELEV. 113.61 feet
DRILLER: Spectrum Exploration - Garry Buss DATE: START 7/26/90 FINISH 7/26/90

DEPTH	SAMPLE No.	SAMPLE TYPE	INTERVAL FROM	INTERVAL TO	BLOW COUNT 0" to 6"	BLOW COUNT 6" to 12"	BLOW COUNT 12" to 18"	REC (in)	USCS SOIL TYPE	WC (%)	qu (TSF)	LAYER DEPTH	SOIL DESCRIPTION AND REMARKS	PIEZO
													Asphalt. (Fill)	
	1	CS	0.5	2.0	30	30	20	10	SM			0.5	Dense, light brown, silty fine sand, moist with shells. (Fill)	
	2	CS	2.0	3.5	9	20	12	13	SM				becomes medium dense at 2.0 feet.	
5	3	CS	3.5	5.0	8	3	2	10	SM-CL			4.5	Soft, greenish gray, silty clay, moist.	
	4	CS	5.0	6.5	8	3	2	18	SM			5.5	Loose, black, silty medium sand, saturated, with white shells and lenses	X
														X
	5	CS	6.5	8.0	1	1	2	16	CL			6.5	of black clay.	X
	6	CS	8.0	9.5	1	1	4	18	CL			8.0	Soft, gray to black, sandy clay, saturated, with shells.	X
10														X
	7	CS	9.5	11.0	1	1	5	18	CL				Soft to medium stiff, dark gray, silty clay,	X
	8	CS	11.0	12.5	2	4	6	17	SC			11.5	saturated. (Bay Mud) some organic plant matter at 10.5 feet.	X
														X
	9	CS	12.5	14.0	5	10	18	18	SC				Loose, dark gray to brown, silty clayey	X
15	10	CS	14.0	15.5	12	8	11	16	SC				fine sand, saturated, with shells.	X
												15.5	becomes medium dense and more silty at 13.0 feet.	
													Bottom of Boring at 15.5 feet.	
20														
													Notes:	
													1. Boring was advanced using 8-inch-diameter hollow stem augers.	
25														
													2. Groundwater was encountered at 5.5 feet during drilling.	
													3. Sampler type: California Sampler (CS) O.D.: 2.5 inches I.D.: 2.0 inches	
30														
													4. Boring was converted to a monitoring well upon completion of drilling.	
35														
													5. OVA readings: a) 50 ppm at 6.0 feet. b) 25 ppm at 7.0 feet c) 30 ppm at 8.5 feet. d) 30 ppm at 10.5 feet.	
40														

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Soil Boring Log

PROJECT No. 86-018-1804
BORING No. MW97-2
LOGGED BY RMD

PROJECT NAME: NAS Alameda - Phase 2A Site Investigations
BORING LOCATION: East of Credit Union Building SURFACE ELEV. 112.68 feet
DRILLER: Spectrum Exploration - Garry Buss DATE: START 7/26/90 FINISH 7/26/90

DEPTH	SAMPLE No.	TYPE	INTERVAL FROM	INTERVAL TO	BLOW COUNT 0" to 6"	BLOW COUNT 6" to 12"	BLOW COUNT 12" to 18"	REC (in)	USCS SOIL TYPE	WC (%)	qu (TSF)	LAYER DEPTH	SOIL DESCRIPTION AND REMARKS	PIEZO
	1	CS	0.0	1.5	14	14	9	9	SM			0.3	Asphalt. (Fill)	
													Medium dense, light brown, silty fine sand,	
	2	CS	1.5	3.0	4	3	2	13	SM-CL			2.5	moist. (Fill)	
	3	CS	3.0	4.5	2	1	2	18	CL				Medium stiff, gray, silty clay, moist, with	
5													interbedded silty sand. (Fill)	
	4	CS	4.5	6.0	1	1	1	18	CL					X
	5	CS	6.0	7.5	1	1	2	18	CL			6.3	Soft, dark reddish brown, sandy clay,	X
													sulfur type odor, moist. (Fill)	X
	6	CS	7.5	9.0	1	2	3	18	CL-SM			8.5	Loose, black to dark brown, silty medium	X
10	7	CS	9.0	10.5	3	2	2	18	SM				sand, moist, with white shells. (Fill)	X
													saturated below 9.3 feet.	X
	8	CS	10.5	12.0	3	2	8	16	SM				color change to gray at 11.5 feet.	X
	9	CS	12.0	13.5	10	13	15	18	SC			12.0	Medium dense, orange brown mottled	X
													with gray, clayey fine sand, saturated,	X
15	10	CS	13.5	15.0	15	15	10	17	SC				abundant iron oxide stains.	X
												15.0	(Merritt Sand)	
													Bottom of Boring at 15.0 feet.	
													Notes:	
20														
													1. Boring was advanced using 8-inch-diameter hollow stem augers.	
													2. Groundwater was encountered at 9.3 feet during drilling.	
25														
													3. Sampler type:	
													California Sampler (CS)	
													O.D.: 2.5 inches	
30													I.D.: 2.0 inches	
													4. Boring was converted to a monitoring well upon completion of drilling.	
35													5. OVA readings:	
													a) 10 ppm at 10.0 feet.	
													b) 10 ppm at 11.5 feet.	
													c) 5 ppm at 13.0 feet.	
40														

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Soil Boring Log

PROJECT No. 86-018-1804
BORING No. MW97-3
LOGGED BY RMD

PROJECT NAME: NAS Alameda - Phase 2A Site Investigations
BORING LOCATION: South side of island adjacent to east gate SURFACE ELEV. 113.90 feet
DRILLER: Spectrum Exploration - Garry Buss DATE: START 7/26/90 FINISH 7/26/90

DEPTH	SAMPLE No.	TYPE	INTERVAL FROM	INTERVAL TO	BLOW COUNT 0" to 6"	BLOW COUNT 6" to 12"	BLOW COUNT 12" to 18"	REC (in)	USCS SOIL TYPE	WC (%)	qu (TSF)	LAYER DEPTH	SOIL DESCRIPTION AND REMARKS	PIEZO
	1	CS	0.0	1.5	9	16	11	12	SM				Grass and Topsoil.	
												0.5	Medium dense, light brown, silty fine	
	2	CS	1.5	3.0	15	12	10	16	SM				sand, moist. (Fill)	
	3	CS	3.0	4.5	3	6	5	16	SM					
5													saturated below 4.5 feet.	
	4	CS	4.5	6.0	3	6	8	16	SM					X
	5	CS	6.0	7.5	2	2	5	18	SM				Loose, gray, silty fine sand, saturated.	X
												6.5	Very soft, gray, silty clay, saturated.	X
	6	CS	7.5	9.0	1	1	1	16	SM-CL			8.5	(Bay Mud)	X
10	7	CS	9.0	10.5	1	2	3	15	SM			9.0	Loose, dark gray, silty fine sand,	X
												10.0	saturated, with small white shells.	X
	8	CS	10.5	12.0	3	4	8	18	SC			10.5	Loose, light brown, silty fine sand,	X
	9	CS	12.0	13.5	14	20	25	18	SC				saturated.	X
													Medium dense, orange brown mottled	X
15	10	CS	13.5	15.0	15	23	30	16	SC				gray, clayey fine sand, saturated,	X
												15.0	some silt. (Merritt Sand)	
													becomes dense at 12.5 feet.	
													Bottom of Boring at 15.0 feet.	
20														
													Notes:	
													1. Boring was advanced using 8-inch-diameter hollow stem augers.	
25														
													2. Groundwater was encountered at 4.5 feet during drilling.	
													3. Sampler type: California Sampler (CS) O.D.: 2.5 inches I.D.: 2.0 inches	
30														
													4. Boring was converted to a monitoring well upon completion of drilling.	
35														
													5. OVA readings: a) 10 ppm at 7.0 feet. b) 30 ppm at 8.0 feet. c) 10 ppm at 10.0 feet.	
40														

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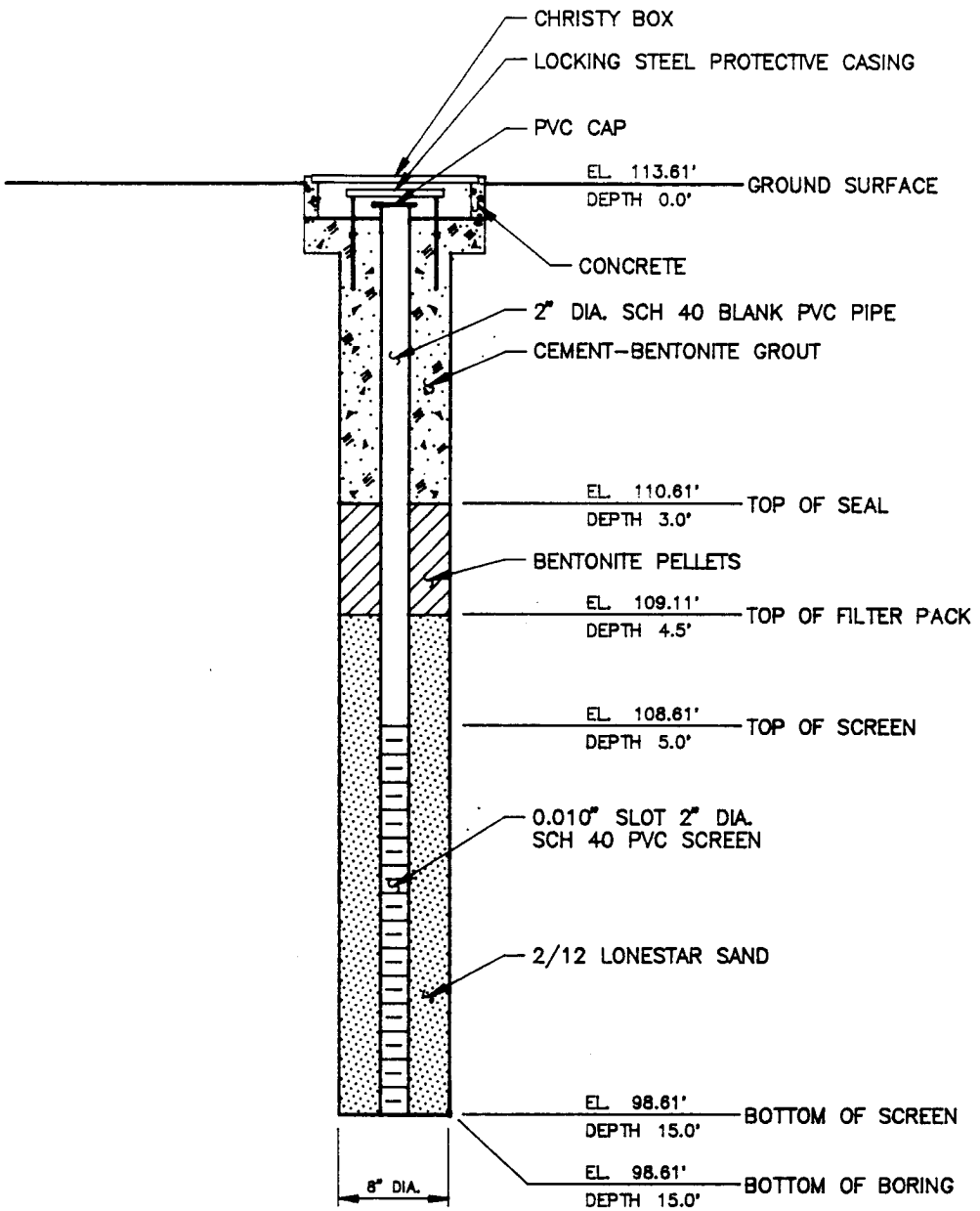
Monitoring Well Detail

PROJECT No. 86-018-1804

WELL No. MW97-1

PROJECT NAME NAS ALAMEDA-PHASE 2A SITE INVESTIGATION

WELL LOCATION McDONALDS, NORTHWEST CORNER DATE 7-26-90 BY RMD



NOTES:

1. NOT DRAWN TO SCALE.
2. SEE BORING LOG FOR DETAILED SOIL DESCRIPTION.

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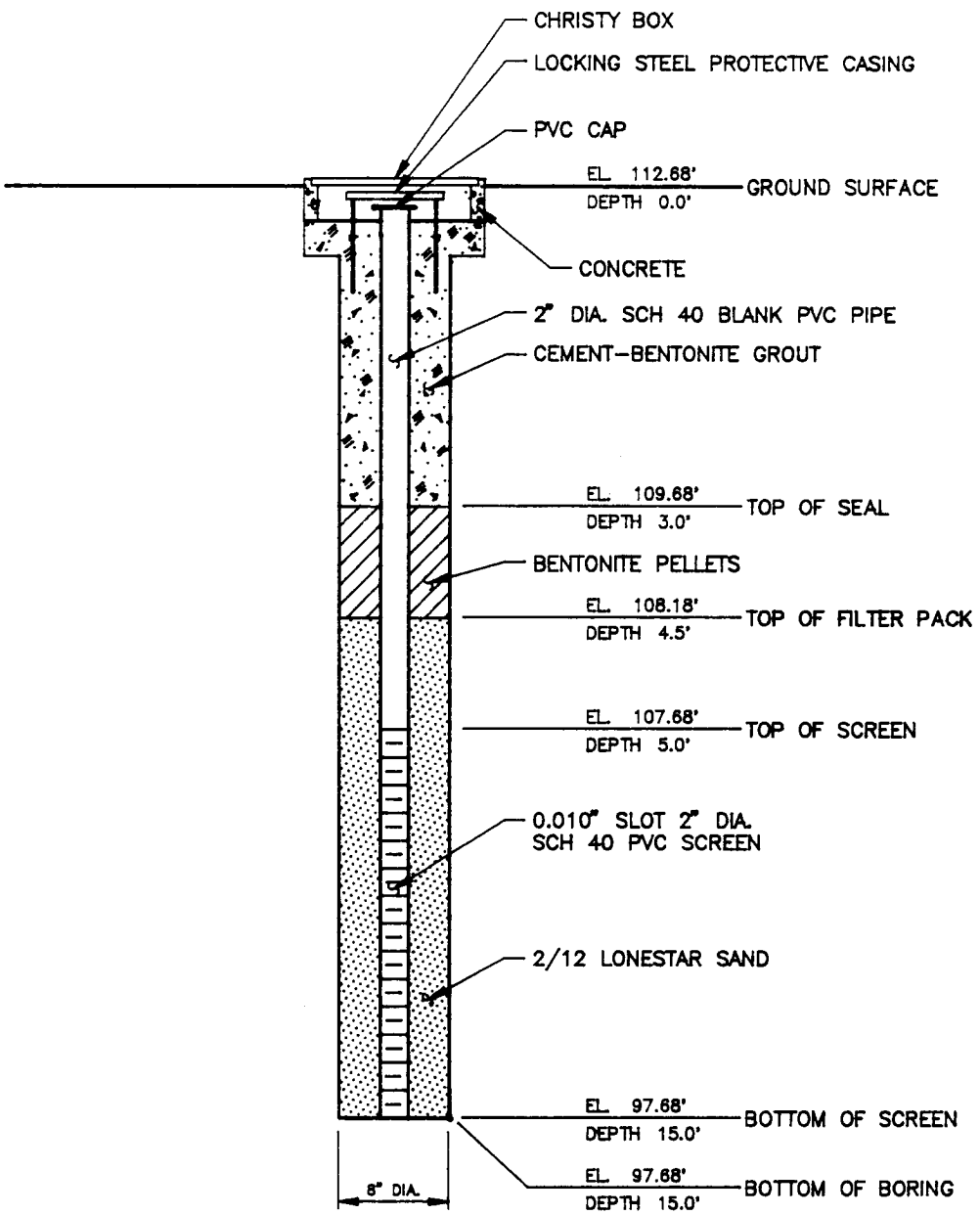
Monitoring Well Detail

PROJECT No. 86-018-1804

WELL No. MW97-2

PROJECT NAME NAS ALAMEDA-PHASE 2A SITE INVESTIGATION

WELL LOCATION CREDIT UNION, SOUTHEAST CORNER DATE 7-26-90 BY RMD



NOTES:

1. NOT DRAWN TO SCALE.
2. SEE BORING LOG FOR DETAILED SOIL DESCRIPTION.

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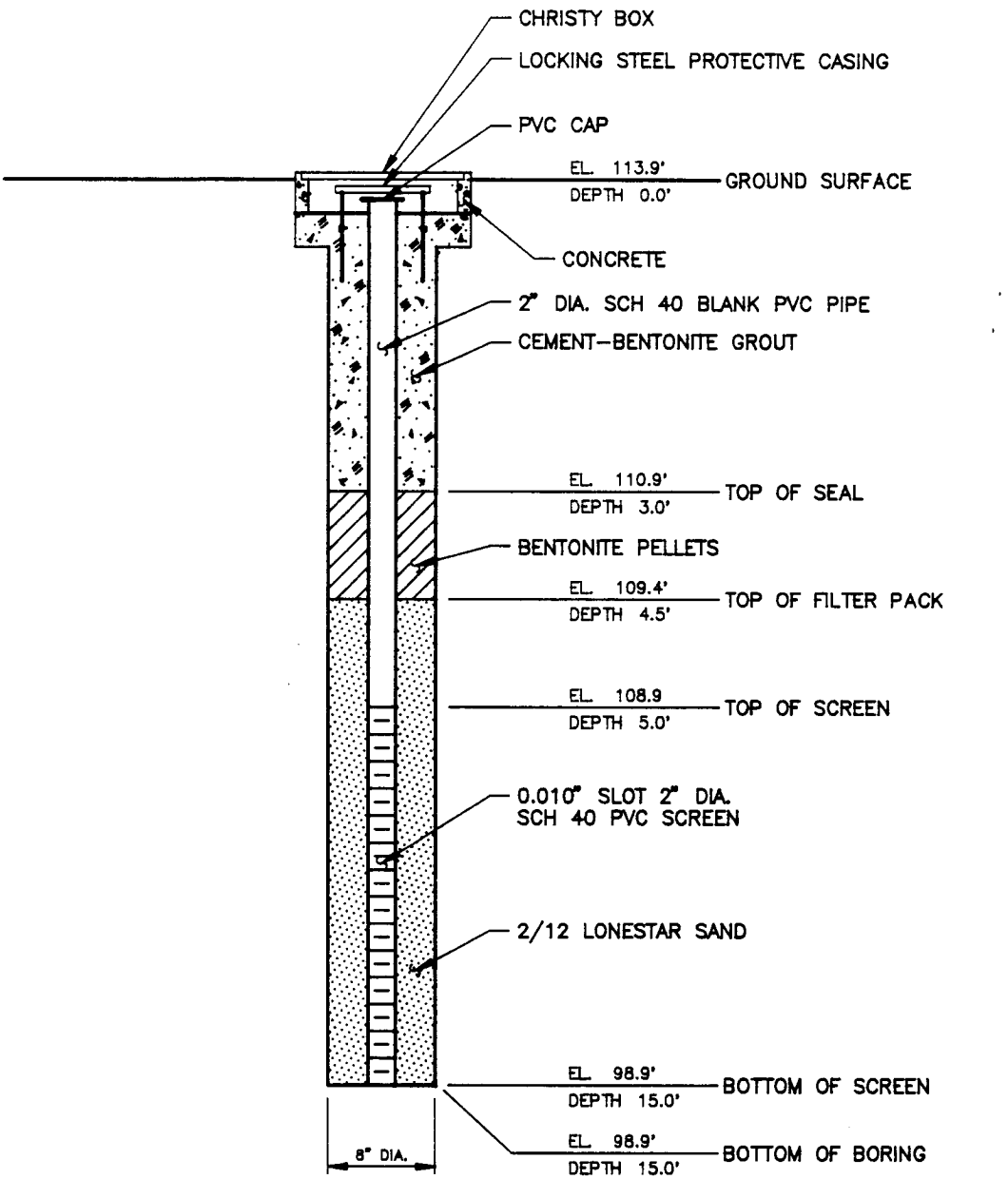
Monitoring Well Detail

PROJECT No. 86-018-1804

WELL No. MW97-3

PROJECT NAME NAS ALAMEDA-PHASE 2A SITE INVESTIGATION

WELL LOCATION SOUTHWEST OF AIRPLANE ON DISPLAY DATE 7-26-90 BY RMD



NOTES:

1. NOT DRAWN TO SCALE.
2. SEE BORING LOG FOR DETAILED SOIL DESCRIPTION.

CanonieEnvironmental

Canonie Environmental Services Corp.
1825 South Grant Street
Suite 360
San Mateo, California 94402
Phone: 415-573-8012
FAX: 415-377-5654

November 2, 1990

86-018-1810

Ms. Bella Dizon (Code 1813BD)
Western Division Naval Facilities
Engineering Command
PO Box 727
San Bruno, CA 94066-0727

Transmittal
Phase 2A Boring Logs and
Monitoring Well Construction Details
Remedial Investigation/Feasibility Study
Naval Air Station Alameda
Alameda, California

Dear Ms. Dizon:

Enclosed are three sets of Boring Logs and Monitoring Well Construction Details from the Phase 2A drilling program recently completed during the Remedial Investigation/Feasibility Study (RI/FS) at Naval Air Station Alameda. Site-specific subsurface data are presented in separate appendices for the eight RI/FS sites, which include Building 360, Building 547, Yard D-13, Building 410, Building 530, Oil Refinery, Cans C-2 Area, and Area 97.

If you have any questions regarding this information, please call me at (415) 573-8012.

Very truly yours,

Timothy G. Bodkin, R.G.
Senior Project Scientist

TGB/gd

Enclosure

cc: Jim Babcock, Canonie Environmental Services Corp.